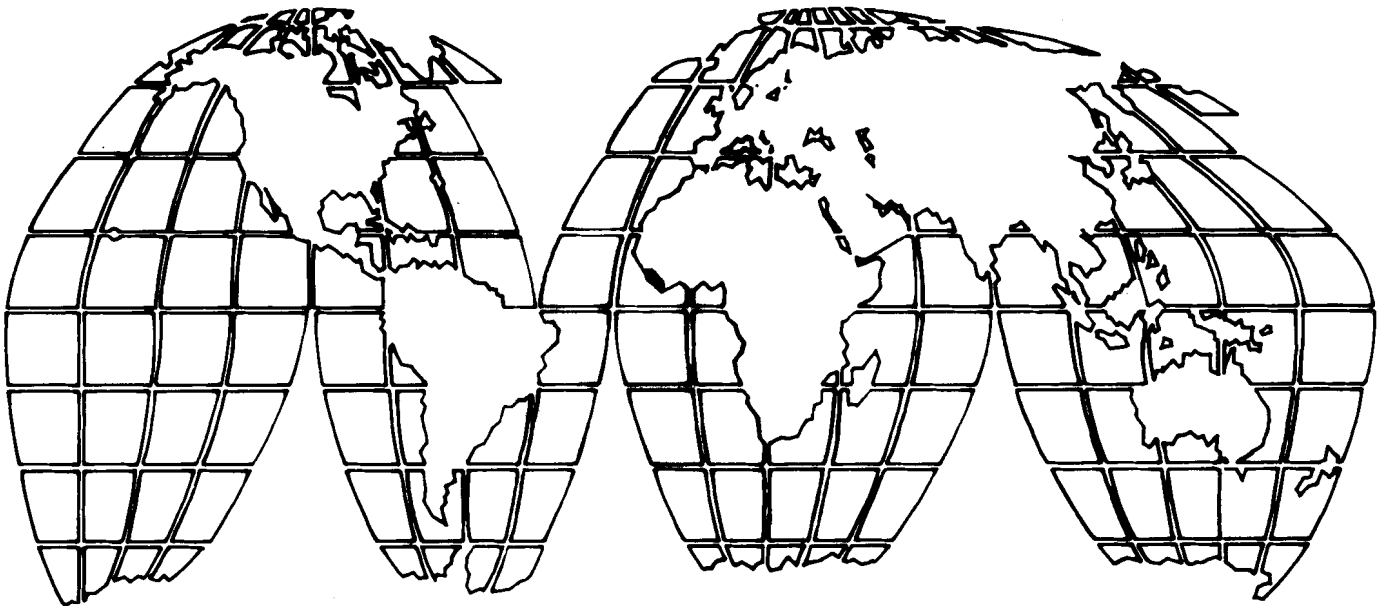


A.I.D. Project Impact Evaluation Report No.6

Impact of Rural Roads in Liberia

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June 1980

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LIBERIA: RURAL ROADS

PROJECT IMPACT EVALUATION NO. 6

by

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June 1980

The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

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FOREWORD

In October 1979, the Administrator of the Agency for International Development requested that, in preparation for an Agency-wide ex post evaluation system, between twenty and thirty projects be evaluated during the subsequent year, focusing on the impact of these projects in several representative sectors of the Agency's program. These impact evaluations are to be performed by Agency personnel and result in a series of studies which, by virtue of their comparability in scope, will ensure cumulative findings of use to the Agency and the larger development community. This study of the impact of rural roads in Liberia was undertaken as part of this effort. A final evaluation report will summarize and analyze the results of all the studies in each sector and relate them to program, policy and design requirements.

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PREFACE

The body of the impact evaluation report was written prior to the April coup d'etat in Liberia which brought to an end one of the world's most enduring regimes. The full consequences of these changes for the nation are yet to be determined and the current period of uncertainty and instability may extend for some time.

Despite the change in government, we believe that the basic issues and conclusions reached herein remain pertinent. With constituencies spread over wide geographic areas and several ethnic groups, any regime coming to power primarily by action at the top of the political system will have difficulty changing the way "business" is done. Themes of decentralization and egalitarianism have been espoused by members of the new regime. However, it will be some time before we can assess whether these ideals will become integral to the working philosophy of the government. Were new rural roads to be built in Liberia today or in the foreseeable future, it is likely that the results in terms of benefits and their distribution would not differ significantly from the impacts described in this report.

Though we have some confidence in the durability of our analysis in spite of the political changes, we also recognize the significant problems that an impact analysis of this type poses. While studying the project design, and investigating the road sites and human impacts, we had several caveats in mind that should be set forth explicitly.

First, the roads were dissimilar in terms of the transport options they superseded: some replaced paths, others upgraded roads along old trade routes that were already capable of carrying mechanized vehicles. Some are passable during dry weather only, some all year. In addition, vehicles generally began to use the roads long before they were completely or officially opened, making it difficult to identify clear causal relationships between roads and their impacts. Regarding both effectiveness (the assessment of how well the projects were carried out and initial goals were met) as well as longer term social impact issues, it is difficult to separate roads from other changes occurring in the society; frequently, they merely intensify already visible patterns. Finally, in judging impacts in particular, we need to recall that since the road projects were designed, there have been substantial changes in A.I.D.'s mandate to focus development efforts on rural poor people.

EXECUTIVE SUMMARY

In February 1980, a five-person team spent three weeks in Liberia evaluating two road programs, Rural Roads I and Rural Roads II. Under these programs, all-weather laterite roads at four different locations were to be constructed or improved (some 155 miles in total length). A.I.D. provided loan funds for the road activities. The work was done by Liberian contractors under supervision of the Ministry of Public Works.

Rural Roads I was finished in 1972. Rural Roads II is behind schedule and not completed. Despite difficulties in completing construction within originally estimated times and cost levels, the roads appear to be economically justified in terms of the volume of passenger and cargo traffic they sustain.

The roads have had a mixed impact. They have stimulated positive changes with regard to education, health, and increased cash cropping. With new or improved access to markets, transportation costs for agricultural products have decreased as much as 90% in the more isolated areas.

These short-term positive benefits from the roads, however, must be balanced against some long-term detrimental impacts. Of principal concern are the lack of road maintenance, changes in the pattern of land ownership and use, and the limited attention paid to the creation of opportunities for popular participation in development activities in areas affected by the roads.

Maintenance

The long run sustainability of the roads program is most closely related to the maintenance issue. The A.I.D. roads are not maintained regularly. Consequently, vehicle operating costs from wear and tear are much higher than necessary and these costs are eventually passed on to the consumers. Furthermore, extensive periodic rehabilitation of the roads is necessary, and any positive long-term economic returns from the roads may be mitigated by the high cost of such rehabilitation.

Land Use and Ownership

Roads facilitate the commercialization of agriculture and the exploitation of Liberia's vast timber and mineral resources. As the market value of land increases, so does competition for its use. The growing pressure to obtain land is causing a fundamental change in ownership patterns. Within customary tribal law, farmers have had rights to the land they farmed.

When a road is built, politically prominent and wealthy individuals from cities as well as rural towns use their positions to pressure local chiefs into selling large blocs of land. In this situation, the majority of farmers are unable to undertake the complex and costly process of surveying, registering and obtaining deeds. Though the full extent of this pattern is not known, it appears to be widespread. The net impact is that the traditional tribal

systems of land tenure are being invalidated and many farmers are losing their rights to the land. Eventually, this may have negative implications for economic security and social stability throughout the country.

Migration to cities and private and public concession areas is another serious consequence of land buying. When roads open up new lumber and mineral concessions and provide access to urban jobs, young men are drawn into wage employment. As their labor is lost, families must compensate by reducing the size of plots, extending the cultivation cycle, or hiring outside labor during peak farming periods. When farm land along the roads gets scarce, women and older people (particularly from poor families) are among the first to be sent further upcountry away from the roads to make rice farms. Those who go back into the bush lose the benefits of the roads: better medical care, marketing, and educational opportunities.

Changes in land use also may have damaging effects on the environment. There is evidence that fallow periods and cultivation cycles are being altered as the planting of cash crops expands and migration takes younger men from the farm. Lumbering operations in heavily forested areas expose fragile soils to rainfall and erosion. Though perhaps indirectly attributable to road construction and improvement activities, the full impact of these changes requires further analysis if more rural roads are undertaken.

Finally, these changes have occurred in areas where the public has had relatively few chances to participate in the shaping and implementation of development policies, or to share in the benefits of increased land valuation and newer commercial activities. Greater attention to the development of institutions supportive of such participation might have resulted in a more equitable pattern of resource distribution.

Two fundamental lessons emerge from the evaluation. First, if people are to take full advantage of the access the roads offer, questions of the distribution of resources and benefits need to be addressed. In conjunction with building roads, it is necessary to build viable local communities and to ensure people's rights to land as well as to such things as credit, production and marketing assistance.

Secondly, in the 1980's, since access to land is a critical fulcrum upon which stability rests, any development activities concerning the land should be undertaken with great care. At best, small farmers' rights to land will be secured and the inherent sufficiency and stability of the rural society maintained as local communities become integrated into the national and global economies. At worst, stratification within the society will intensify as the bulk of the nation's farmers find themselves isolated from economic and social opportunities.

ACKNOWLEDGEMENTS

We are grateful to the people in Washington and throughout Liberia whose insights and experience helped direct our work. In Liberia, many shared their homes and food. An extensive list of contacts is contained in Appendix B. In particular, we would like to thank the USAID Mission to Liberia for its assistance with documents, logistics, finances and personnel to accompany us during the field work. Various Liberian officials were particularly gracious and helpful. We are especially indebted to the University of Liberia students who accompanied us during our travels and provided many insights and clarifications. We also want to thank those in AID/Washington who helped us prepare the report and assisted with guidance, as well as clerical support. For their collective patience and competence, special thanks goes to the Development Studies Program staff who typed the many drafts of this report.

DATA SHEET
LIBERIA RURAL ROADS I AND II

PROJECT	LOAN AUTHORIZA- TION DATE	CONSTRUCTION STARTING DATE	CONSTRUCTION COMPLETION DATE		TYPE CONSTRUCTION MILES ^{a/}			CONSTRUCTION COST (\$)	
			PLANNED	ACTUAL	NEW	IMPROVED	TOTAL	PLANNED	ACTUAL
<u>RURAL ROADS I</u>									
Kolahun-Kamatahun	11/69	5/70	8/71	11/71	7	11	18	303,537	303,537
Zwedru-Ziatown	11/69	5/70	8/72	8/73	33	0	33	549,811	722,986
						Plus Culverts		99,913	99,913
			(Sub-totals - Roads I)		40	11	51	953,261 ^{b/}	1,126,436 ^{c/}
<u>RURAL ROADS II</u>									
Plebo-Barclayville	6/72	6/76	8/75	not complete	48	0	48	2,125,402	incomplete ^{d/} (Est. \$1 million overrun)
Saglepie-Sanniquellie	6/72	6/76	8/75	not complete	23	33	56	1,714,033	incomplete ^{d/}
			(Sub-Totals - Roads II)		71	33	104	3,839,435 ^{e/}	4,839,435 ^{f/}
			(Totals - Roads I and II)		111	44	155	4,792,696	5,965,871

a/ All roads are laterite construction and 20 feet wide, including shoulders.

b/ This includes a Government of Liberia contribution of \$160,000.

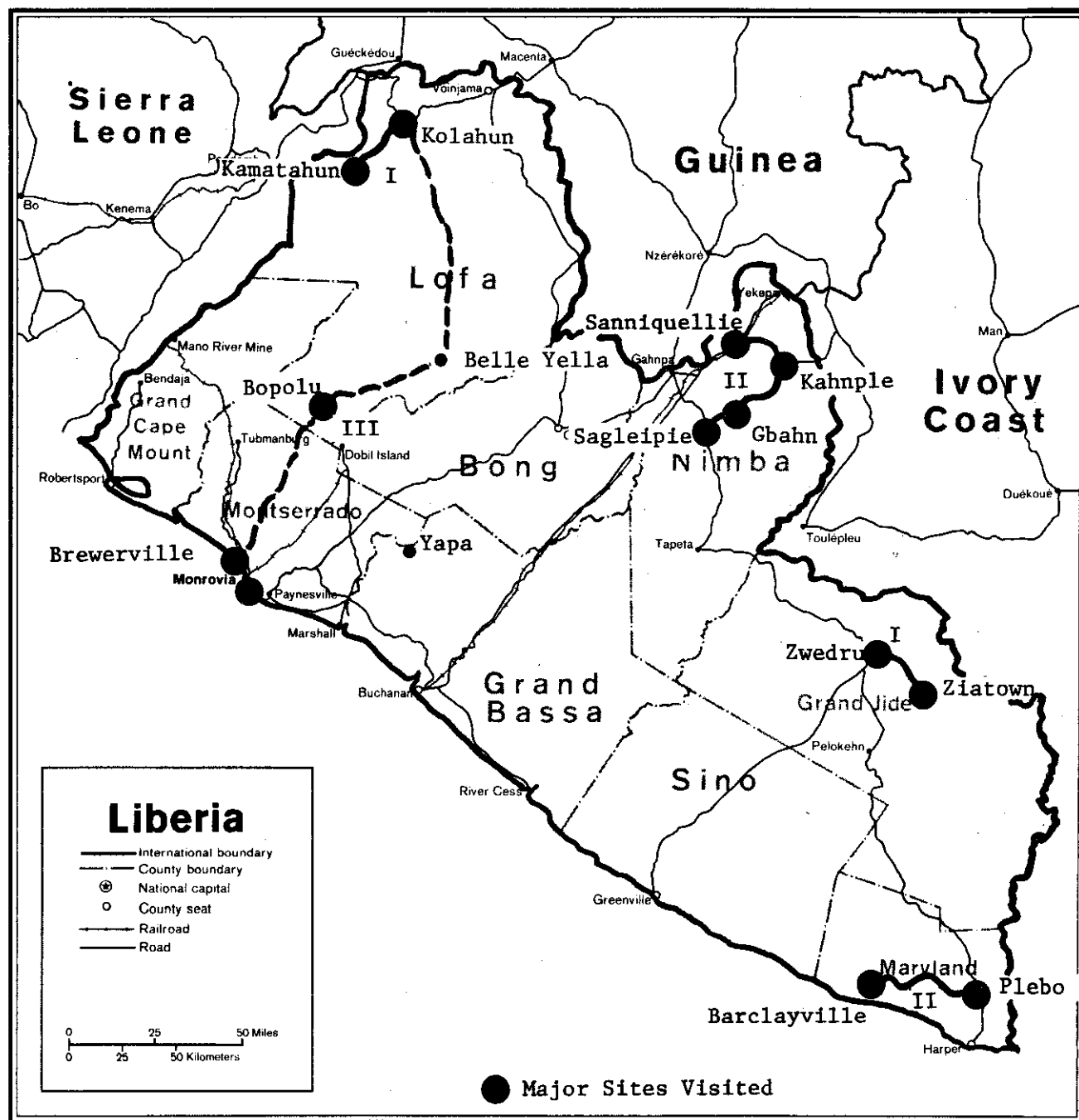
c/ The actual construction cost per mile is estimated to be \$22,087.

d/ The Plebo-Barclayville road is only 2/3 completed. Also two bridges are still being constructed on the Saglepie-Sanniquellie road.

e/ The AID funding level was \$3.4 million and the GDL contribution \$441,000.

f/ The actual construction cost per mile is projected at \$46,533.

LIBERIA RURAL ROADS I, II & III

**Rural Roads I:**

Kolahun-Kamatahun: 17.99 miles
Zwedru-Ziatown: 33.22 miles

Rural Roads II:

Sagleipie-Gbahn-Kahnple-Sanniquellie: 55.7 miles
Plebo-Barclayville: 47.6 miles

Rural Roads III: Includes

the Brewerville-Bopolu-Belle Yella-Kolahun road and the Timbo River Bridge at Yapa. The first phase of this road near Brewerville is now under construction.

I. INTRODUCTION

To an outsider accustomed to smooth asphalt roads, the unpaved laterite roads of rural Liberia have little to recommend them. In the rainy season roads acquire vast, muddy potholes. In the dry season noisy taxis, logging trucks, and grinding pickups churn up clouds of thick red dust and distribute it over people in passing vehicles and over foot travelers by the roadside. In contrast, outsiders who walk away from roads are struck by the cleanliness and peacefulness of the equatorial forest villages.

Despite these contrasts our U.S.A.I.D. rural roads evaluation team quickly learned that practically every village without a road wants one. With U.S.A.I.D. support, four rural roads have been built or improved. Our team of five visited Liberia to assess the impact of these roads. In towns along the roads where we stopped, local leaders, shopkeepers, market women and farmers thanked us profusely because they thought we had personally been influential in building the roads. In
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such a village to draw some comparisons with other villages on the road. There ensued an intense discussion among several of the leaders present, debating about whose village would be selected: each wanting us to see his village in hopes that we would bring a road to it, despite our patient explanations that we could not do so.

Roads that penetrate the Liberian interior compress time and geography in a way that seems commonplace to Westerners. But it is revolutionary to people who once measured distance in walking days and now measure it in taxi fares. In former days the visitor to Liberia saw vast differences between the U.S. antebellum style of houses in coastal cities, for example, and the compact villages of wattle and daub houses with thatched roofs in the interior.

Many such differences still exist, but it is the similarities that now strike the visitor. Everywhere are zinc roofs on cinder or mud block square houses. In towns of any size along the roads are school children in uniforms, government clinics, courts and schools. Periodic markets in densely populated areas teem with people and goods: fish, locally produced rice, vegetables (sold mainly by women from their personal gardens), as well as imported trade cloths, sunglasses, plastic sandals, candy, cigarettes, and ready-made clothes.

Well-stocked stores owned by Lebanese and African merchants display a wide variety of imported consumer goods. There are small shops set up in front rooms of houses, and "table markets" with a few goods on front porches. Along many of the roads in the interior are shady rows of tall bending rubber trees and groves of coffee, cocoa, and oil palm trees.

Increasingly, one sees roadside fields of sugar cane, used only for alcoholic "cane juice" in Liberia, and in some areas irrigated rice plots.

People generally welcome these changes and agree that, on the whole, roads are good. It makes sense, therefore, to ask what these benefits are and if they are enjoyed by everyone, and to what extent they will be sustained in the future.

To provide a basis for the discussion of these questions, we turn first to Liberia's past. We examine the ways in which roads are bringing about change from subsistence slash and burn agriculture to commercial cash cropping, and how they have facilitated better services to rural people. We are interested primarily in how opportunities have changed to enable people to meet their needs and participate in the decisions that affect their lives.

II. SETTING

A. The Traditional Framework -- Self-Sufficiency and Stability

When asked about Liberia, most outsiders mention the country's status as the oldest republic in Africa. They also mention its notable economic progress in recent decades and history of relative economic stability. What is less known about Liberia is that its stability has historical roots in the economic self-sufficiency of its traditional rural households. Most people in rural areas, though poor in income, could provide for certain basic needs at the village level in the context of some political participation. Rural Liberians had access to traditional medical services that drew on intricate knowledge of natural vegetation. Children were educated by their elders in the basic skills required for village life.

Subsistence agriculture provided the margin that allowed Liberia to escape severe malnutrition and to enjoy relative prosperity, despite the fact that little or no surplus rice was sold and cash incomes were low. Communally held land was allocated to families or individuals by tribal leaders on the basis of need. A low population density and ample land permitted effective use of slash and burn cultivation, while forest and water resources enabled families to supplement their diets with game and fish. Ideally, farmers cleared plots of some three to six acres of land each year for their rice crops and some garden vegetables. When the fertility of the thin forest soil declined, a crop of cassava could be planted. Fertility was then restored over a fallow period of 10 to 25 years. Farmers eventually returned to these same plots of land that they and their ancestors had cultivated previously, recognizing them by the towering "cotton" trees or large termite mounds that happened to be on the sites.

Most people, regardless of their social status, generally had enough food to sustain themselves. Over the years the urban populace could also benefit to some extent from rural subsistence agriculture through the food available in markets, as well as through rural relatives who could be called on to supply rice in times of urban unemployment, sickness, or unexpected expense. Finally, the availability of land and subsistence crops meant that wealthier farmers and tribal leaders could not place too many demands on followers for labor or produce. Nor could they make important decisions that affected the whole community without at least some implicit consensus. Most low status people could simply leave if they felt their welfare was being disregarded, although the costs in terms of further loss of status were high. In sum, most Liberians, though poor in cash incomes, could provide for certain minimum needs at the village level and had some voice in the distribution of resources and political power.¹

B. Stratification and Dominance

Although villagers tended to have a certain security within the community setting, there were indeed social distinctions. Because land was relatively plentiful, the amount of food produced, particularly rice, rested on the number of dependents one controlled, including wives, children, slaves, and other subservient male laborers ("clients"). The ideal of man, therefore, was to become a powerful "patron" to dependent families who relied on him for protection. These families would offer him women as tokens of their allegiance. These women and eventually their daughters could be used to attract more young male clients to work on his farm. In this way, people--particularly some men--acquired status in a spiral of political success simply by growing older.

Many elements of the traditional system still exist in Liberia. However, the major challenge both to household economic autonomy and to the relatively small status differentials began in the early 1820's with the arrival on the coast of groups of freed American slaves and recaptured Africans rescued from slaving vessels in West African waters.

1 Jeanette Carter ("Loma Households and the Production of Rice: Implications for Commercial Production," paper for the American Anthropological Association meetings, 1976), for example, states that:

"Their upland rice farms have provided well for the Loma and have enabled them to live a life which is satisfying in many respects, although poor in monetary income. Individuals worry about the adequacy of the harvest but in comparison to farmers elsewhere in the Third World, the harvest is relatively reliable. The natural environment poses fewer uncertainties than in many other places and, even political pressures pose fewer uncertainties for farmers than elsewhere."

Difficulties in traveling through the country at first provided a buffer zone between the settlers and the indigenous tribal people, and contact between them was generally sporadic and hostile. Because of their contacts with the outside world, and their desire for political and economic expansion, however, the "Americo-Liberians" (as they were formerly called) began to make inroads into the interior, instituting a system of indirect rule. They made native chiefs responsible to the central government in Monrovia, and through them, imposed taxes, indentured labor for plantations or portage, and created a native frontier army to enforce these demands.

The poor communications between the coast and the interior that provided a buffer, however, also worked to the detriment of the tribal people. The settlers were protected from accountability either to tribal authorities or to the outside world, which generally viewed the settlers as the bearers of civilization and economic modernization to primitive people.

III THE A.I.D. ROAD PROJECTS

A. Description

Until the middle part of the twentieth century, the roads that existed in rural Liberia connected a few trade and administrative areas to Monrovia. At this time, the country began to establish more sustained ties to the world economy. Export commodities that the country could produce (such as iron, diamonds, gold, rubber, timber, coffee, cocoa, and palm oil) and the labor to produce them required easy access to the interior. Foreign companies were given concessionary rights to set up plantations and mining industries in the country. And Liberians with education and wealth also began to turn their entrepreneurial skills in these directions. Therefore, government efforts turned to actively opening up the country. Roads were central to this strategy.

The A.I.D. loan agreement for two roads under the Rural Roads I project was authorized in 1969. A loan for two additional roads under the Rural Roads II project was signed in 1972, though construction did not begin until 1976.

The roads were built in order to: (1) increase agricultural production (especially cash crops) by introducing through extension workers, better tools, fertilizer, pesticides and improved methods of cultivation, (2) create additional markets and business activity, particularly for small businesses, (3) bring various welfare, social and political benefits; for example, better access to doctors and schools, and (4) stimulate political unity. (See, for example, A.I.D. document AID-DLC/P-1041, June 14, 1972).

Though not included in the original project design, a major objective came to be strengthening the institutional capability of Liberian contracting firms selected to build the roads. Implied as well was

the objective of promoting economic benefits derived from improved access for both foreign and locally controlled mining, agricultural and timber concessions.

An adequate labor supply was not available for road construction for several reasons: low population densities in many of the Rural Roads I and II project sites, the labor requirements of the subsistence economy, outmigration, and the high labor demands in the nearby concessions. Thus, Rural Roads I and II involved minimum standard, machinery intensive construction methods.

We were in Liberia for three weeks during February 1980, to study the impact of Rural Roads I and II activities. Our research methods involved document searches in Washington and Liberia and examination of existing data sources. We also interviewed scholars, Liberian and A.I.D. officials, and Liberians in the villages and towns along the road. The methodology is described more fully in Appendix B.

B. Effectiveness of the Roads

We found mixed results on the issues of road construction and maintenance. Rural Roads I was completed about one year late and had a cost overrun of 20 percent. This is a reasonable performance considering that the project was prepared prior to the energy crisis, and that it was A.I.D.'s first experience in Liberia in constructing roads using the nascent local contracting industry. Rural Roads II experienced exceptionally long time delays and cost overruns. The originally scheduled completion date was August 1975. However, Rural Roads II is still not complete and, in fact, the Plebo-Barclayville section is only two-thirds finished. These problems are partially due to adverse weather conditions, and A.I.D.'s underestimation of both the time required to build the roads and the guidance A.I.D. needed to provide -- particularly in supporting the local contractors the project sought to encourage.

One problem was that the local contractors did not fully understand the strict A.I.D. bonding requirements to be satisfied before the physical work could commence. Difficulties in obtaining this bonding caused an eight months' delay in starting Rural Roads II. Another implementation problem was poor project preparation by the Ministry of Public Works. Along with inflation and increased oil prices, this faulty preparation resulted in both high cost overruns of 30 to 50 percent and work delays. These were especially serious in the case of the Plebo-Barclayville road. Only after construction had started was it discovered that the road alignment ran through extensive marshes not identified during the site surveys. Lowered design standards and other short cuts to save money also resulted. The Plebo-Barclayville road, for example, was shortened by several miles, thus by-passing two sizeable villages included in the original plans.

The sustainability of the roads program is most closely related to the issue of maintenance, which remains the most serious problem. Unless maintenance is begun soon after roads are built, their future economic feasibility will be questionable. The A.I.D. roads we saw are seldom graded, and little routine maintenance is undertaken such as clearing the brush from the sides of the roads and from drainage ditches. This means that vehicle operating costs from wear and tear are much higher than necessary -- costs that are eventually passed on to consumers. Any positive economic returns from the roads may, therefore, be mitigated. Moreover, this lack of maintenance results in increased needs for expensive periodic rehabilitation.

Lack of maintenance causes other problems. In many instances, the unmaintained roads are impassable during the height of the rainy season, particularly on the Zwedru-Ziatown and Plebo-Barclayville roads. This results in shortages of food, gas, and clinic supplies, as well as difficulty in delivering government services. The neglect of brush clearing from the sides of the roads reduces visibility and may have been instrumental in causing a large number of fatal accidents, particularly on the Zwedru-Ziatown road. Twenty-seven deaths have occurred since the road was opened in 1976. Small taxi and pickup operators also find it difficult to keep their vehicles working on badly maintained roads. This tends to concentrate the transportation industry into the hands of wealthy people who can bear the cost of unexpected major repairs.

Road maintenance, when it occurs, seems to be stimulated primarily by three things: Independence Day celebrations that lead to the selection of one county each year for special attention; the need of nearby foreign mining and lumber concessions to maintain some public roads at a level required for their own use; and most importantly, presidential visits. We arrived in the Sanniquellie area, for example, just before the President was due. The entire Nimba County government was preparing for this visit, ordering towns cleaned up along his planned route, clinics and schools tidied and stocked, and guest houses and food prepared for the party. Most noticeable to us, however, were the graders, bulldozers, rollers and water trucks from the Ministry of Public Works (as well as from the foreign concessions) feverishly clearing and smoothing the roads he would travel on.

Essentially, the reasons for poor maintenance seem due to an emphasis by the Ministry of Public Works on the more technically interesting and politically appealing new construction road projects, rather than on the routine, mundane requirements of maintenance. Further, there is a lack of administrative and management expertise within the Ministry of Public Works (maintenance is more a management than a technical problem). Consequently, due to these and other

factors, road maintenance is not adequate, even though sufficient gasoline taxes and other road user revenues are collected to provide for it.

Despite the construction problems, and if the maintenance difficulties are overcome, the roads A.I.D. sponsored can be economically justified (based on standard economic calculation) because of the volume of traffic they sustain. Passenger traffic in particular is heavy. Moreover, as we shall see, many of the stated purposes of the road projects -- increased production, improved markets, higher income, and greater number of clinics and schools -- have been met.

IV. IMPACT OF THE ROADS

The most immediate changes brought about by roads in rural areas of Liberia have been in education, health, agriculture, and marketing. Although problems have arisen in these areas, some of which we outline, the changes generally have been positive. The long-term and potentially more serious effects of the roads are addressed in the sections on land use and ownership, environment and migration.

In general terms, the impacts of the roads, whether positive or negative, are more pronounced when new roads are built rather than when old ones are improved. When areas are first linked into a national network of transportation and communications, the impacts on the regions are rapid and vivid. However, when an existing road is improved, the consequences are not as pronounced--because the process of change had been initiated at the time the original road or track had been built. Thus, the renovation of an existing road of itself may be less a risk in terms of adverse impact on people, and conversely, much less a significant factor in any positive change that may occur.

A. Education and Political Participation

The importance of education for rural Liberians cannot be overstated, especially when viewed in the context of the country's political history. Exploitation and abuse of rural people by coastal elites was largely possible because the tribal people lacked channels of complaint. Few would take their side except their own leaders, who had little clout themselves other than tenuous ties to coastal patrons.

Roads and education have changed this dramatically. Although people still need patrons, their own children are fulfilling some of these roles by becoming brokers for them. Young educated tribal people can read, write and speak English -- crucial skills for negotiating with powerful officials in Monrovia -- and they know how to use legal means to try to redress injustices to their illiterate, vulnerable elders.

Villagers also place a heavy emphasis on educating their children because they see the kinds of jobs and incomes that educated people can acquire. Previously, few tribal children could go to government or mission schools because of the distances involved and the scarcity of schools upcountry. Roads and educational programs are now creating significant opportunities for tribal people to send their children to school. Along the A.I.D. roads we visited, as well as along numerous "self-help" roads built by townspeople off the A.I.D. roads, new or improved schools were pointed out. People told us that roads and the comforts they brought made it easier to induce teachers to stay. Getting government employees paid regularly is a continuing problem in Liberia, but the roads at least make it easier for teachers to go down to Monrovia (albeit at their own expense) to try to get their pay checks.

Roads also may have facilitated the recent dramatic increase in participation in the national political arena noted by long term observers. We saw evidence of a new populism in the open and legal efforts, particularly in more densely settled rural sites, to organize a new political party. Conversely, however, we saw and heard no evidence that the roads have been catalysts for administrative or political decentralization. To the contrary, officials as well as outspoken critics argue that roads have effectively served to streamline channels of authority to Monrovia. These developments have created a potential for conflict and disruption which the government will have to confront. One official response, the creation of a Rural Development Task Force in 1978 to work out plans for decentralization and for increasing popular participation in development planning, has yet to produce notable results. (See Appendix A.)

B. Health

Another thing that people in towns on roads consistently cite as an improvement is access to health services. At several sites along the A.I.D. financed roads, proud officials took us on tours of clinics that had appeared after the roads were built or improved. In most cases, someone was there to staff the clinics, although drugs and supplies sometimes seemed sparse. In all the clinics that were open, a number of people were waiting to receive treatment. Evidence of improved health service also came from a long-time missionary in Bolahun on the Kolahun-Kamatahun road. He reported that until the road came through, his mission spent a lot of money feeding children whose mothers had died in childbirth. Now, with increasing numbers of clinics, their child feeding program has practically ended. People often contrasted the current improvements with earlier heroics and sacrifice sometimes required to help desperately ill people in isolated areas. One man related a dramatic air rescue in which villagers rapidly cleared a landing strip with axes and machetes while a doctor circled overhead in his plane.

While access to modern medical services has definitely improved, however, the roads often create health problems. Aside from relatively obvious problems such as traffic accidents (mentioned by a number of people), a Ministry of Health official reported an increase in water-related diseases, such as malaria and schistosomiasis from standing pools of water along clogged road drainage areas. Lung diseases seem to have increased to some extent in towns along the road because of dust. Ironically, there are also instances of people contracting tuberculosis when they tried to protect themselves from the dust by closing their doors and window shutters. (Problems such as this might be avoided by paving the stretches of roads through villages.)

There are more indirect health implications of roads as well, such as greater likelihood of spreading diseases through increasing movement of people and animals. Overall, however, the health benefits to rural areas from the roads seem to outweigh the disadvantages.

C. Agriculture

The third major change that people cite when a new road is constructed is a marked increase in cash cropping. In response to such incentives as attractive prices and better access to markets, we were told that farmers along the roads have increased their cultivation of tree crops such as coffee, cocoa, and rubber when they have had the opportunity to do so. As an example of this trend, national coffee production increased threefold from 1974 to 1978.² While the current economic gains from tree crops seem evident, long run trends in agriculture are less clear.

Despite expansion of acreage in tree crops, the total number of acres per farm remains low and total output per acre of land in the traditional bush fallow system is extremely small. In most households, the amount of food produced, principally upland rice, is about equal to family consumption requirements. There is little or no surplus for sale. Over the past several years, the average rice yields per acre in most places have remained stagnant. And in recent years 15 to 20 percent of the rice consumed in Liberia has been imported,³ mostly for use in urban areas.

Until recently, the principal factor inhibiting domestic rice yields for the production of surpluses seems to have been the absence of a suitable technology for upland rice cultivation. Because

2 Source: World Bank data.

3 Ibid.

international rice research has focused mainly on improved irrigated varieties, the upland rain-fed types have received little world-wide or specific country attention. Consequently, better seeds needed to increase yields of upland rice within the traditional cultivation systems have only recently been identified. Even though such improvements are now available, the distribution and storage systems in upcountry areas of Liberia are not sufficient to assure adequate delivery of new seeds, as well as other technologies and extension activities.⁴ Thus, some of the farmer's focus on cash crops may in fact be a response to the stagnating rice production. For the moment at least, tree crops generate enough cash to offset possible household food shortages.

However, tree crops may have an adverse effect on food production in the long run. Tree crops are highly labor intensive and compete with subsistence crops at peak times in the cropping cycle. Often extra farm labor must be hired, sometimes from neighboring countries, during overlapping seasons of bush clearing for rice and harvesting of coffee and cocoa. In such times, the available labor may well go to care for the tree crops and over time a decline in subsistence rice production may occur. As a result of this process, Liberian small farmers are becoming gradually more vulnerable to the vagaries of world price for export crops. While the long-term impact is complex and the outcome unpredictable, the move toward cash crops for export may have implications for the stability of the subsistence economy.

D. Marketing

Traditionally, farmers carried their produce to market by headload, sometimes for many days. The quantity of produce sold depended not only on the distance, but also on the number of people either in the family or available for hire to carry bags weighing up to 200 pounds. In the vicinity of the new A.I.D. rural roads, headloading has been reduced to hours, and transport costs decreased dramatically. For example, farmers in Benwah (formerly connected to Plebo by a 15-mile foot path) would today have to pay \$14-\$19 per headload (all costs taken into account) were it not for the new A.I.D. road which permits transporting the same load by taxi for \$1 to \$1.50 -- a 90 percent reduction in transportation costs.

4 The Liberian Ministry of Agriculture's draft paper, "Liberia's Agricultural Development in Relation with the Reorganization and Streamlining of the Ministry of Agriculture" (December, 1979) notes that "It would be impossible for farmers in most areas to find fertilizer, pesticides, and other inputs if they wanted to use them. Where they are available, the price is prohibitive...Credit for operating expenses and capital inputs are not available to the typical subsistence farmer" (p.3).

In addition, farmers now report that they lose less of their agricultural products through spoilage when transport is available. Farmers on the Zwedru-Ziatown road, for example, used to harvest more cocoa than they could headload to the market in Zedru, since it was not always possible to find carriers. The former Commissioner of Ziatown remembers farmers who could harvest 12 bags of cocoa each year, but often got only four or five to market in good condition. Not only can farmers living near these roads easily and profitably sell their goods, they can also use the cash they earn to purchase an extensive array of consumer goods in stores, shops and "small small" markets in houses. The relative prosperity in many of the towns is impressive.

The gains made by some young or middle aged women as a result of these changes seem particularly marked. Although some simply sell small items to make ends meet or to supplement their husbands' cash incomes, others have gained mobility and independence. Such women begin by borrowing capital from their husbands -- or secretly from lovers -- or by selling some of the produce from their gardens, and setting up small table markets or shops. Women also send their small children out with "head markets": boxes of fried cassava flour balls or fried plantain slices, buckets of water with cups to serve thirsty market goers, or (the latest fad) hunks of frozen Kool Aid in small plastic "baggies." The creative variations are endless. Though at first unimpressive to an outsider, these small businesses generate a surprising amount of cash for women.

Women who profited by the growing cash economy were particularly apparent in the Kolahun area. One young woman who owned a shop told us that there were women in the area who had coffee and cocoa fields of their own, who carried as much as \$3,000 in small purses hung discretely from their waists under bulky "lappa" dresses. There were no convenient banks locally and most women did not trust their husbands or boyfriends enough to leave the cash at home. Such women, she asserted, can easily divorce husbands who try to dominate them or take too much of their profits, by refunding the bridewealth money the husbands paid to the women's families. If there is trouble obtaining a divorce, a woman can now simply take a taxi to Monrovia to get help from educated relatives and from the national judicial system.

While many have profited from the commerce generated by the roads, expatriate merchants and a small group of Liberian traders have done particularly well. The expatriates, for example, own large stores and act as money lenders. Farmers sometimes spend their income quickly after the harvest and must seek credit as their cash diminishes. The magnitude of the debt over a year seems small (perhaps not more than \$20-\$30), but suffices to keep the villager or town resident continually indebted to the merchant.

Ethnic groups that historically have been involved in domestic trade, particularly the Mandingo, now seem to own much of the transport and trucking industry in the country. These truckers also purchase produce through a chain of agents or "middle buyers" who penetrate rural areas buying small quantities of coffee, cocoa, rice and palm oil. In some ways, the "middle buyers" -- many of them women -- perform a much needed service buying and transporting goods for farmers in remote areas for those who cannot afford to transport their crops to market.

Sometimes, however, middle buyers cheat isolated farmers, using fake weights -- or even no scales at all -- and quoting erroneous "official" prices. Team members heard reports of purchases of 100 pound bags of cocoa for \$40, less than half the official price of \$82 a bag. Private traders also own most of the storage facilities; they ship, store and sell produce for large profits. Where it exists, therefore, this influence over rural trade may limit competition along the roads for those with little cash who do not belong to certain expatriate and ethnic groups.

The Liberian government has attempted to encourage market cooperative societies as a way to expand the commercial activity and benefits accruing to smaller farmers, and thus to limit the inequities encouraged by existing markets. However, efforts to encourage small town or primary cooperatives that can relate easily to small farmers and circumvent large brokers have so far been very limited. For example, in the Nimba and Lofa County areas, where we saw the most active and commercially viable cooperative societies, the members and executive officers tended to be from wealthier, more established families. In addition, we heard reports that many cooperative officials were in fact circumventing the cooperatives by acting as private "middle buyers" procuring crops from people in outlying areas.

E. Land Use and Ownership: The Fundamental Transformation

Health, education and agricultural production are all important areas to consider in evaluating the impact of A.I.D.-sponsored Liberian rural roads. However, the beneficial changes in these areas may soon be eroded if a much more fundamental change is not controlled: that of a system of communal self-sufficiency and collective rights to a system of private deed ownership.

Roads that facilitate the commercialization of agriculture and the exploitation of timber and mineral resources pose challenges to the stabilizing forces that have characterized Liberian society -- the supportive social networks and the pattern of essential self-sufficiency. With the growing ties between the Liberian and global economies, money and land increasingly become strategic resources. This of course intensifies

the competition for land. Such growing pressure leads inexorably to the concentration of land into the hand of wealthy people and to the invalidation of tribal systems of land tenure.⁵ Some people clearly benefit from these changes. Those with personal connections or capital, usually both, can now legally purchase or obtain long term control over large areas of land, and reap unprecedented cash profits from it. For those with the fewest resources, however, the disadvantages are great, especially as their fragile claims to subsistence farming lands erode.⁶ With less fertile farm land in areas proximate to roads, many farmers are moving up into the bush where there is no road. Here they resume the traditional ways of farming and lose many of the benefits of improved health, education and commerce that the roads initially brought. Some stay on the land as tenants and others -- usually the more educated -- moved to the city or to concessions in hoped of finding employment. It is the role of roads in these changes that will now concern us.

When a new road is constructed in a previously isolated area, local farmers are initially elated. They can now more easily send their crops to market, their children to school, and their sick relatives to hospitals. However, as soon as roads are announced -- or even rumored -- speculators rush to obtain deeds. After the more recent A.I.D.-financed Rural Roads III project was publicly announced, for example, local people reported that large parcels in the Bopulu area were quickly deeded, primarily to outsiders. A growing number of those private purchases as well as some large government plantations, especially near the older A.I.D. roads, are displacing small farmers who had land near the roads.⁷

5 The extent of land holdings under the various types of tenure is unknown. World Bank estimates indicate that two-thirds of the land that is currently cultivated belongs in private deed to seven percent of the holdings. This seems to us a very large estimate. A.I.D.'s recent draft Project Identification Document on land tenure simply notes that "At the present there is no clear documentation indicating how much land is being held under each type of tenure and where".

6 The 1971 Liberian Agricultural Census estimated that largeholders (above 125 acres) had 95 percent of their land in "freehold" (private deeds), while small holders had only 25 percent in freehold (p. 65).

7 The 1979 Ministry of Agriculture's draft statement on reorganization and policy notes that "In some parts of the country the existing dichotomy of land tenure systems has resulted in all the land adjacent to the roads being owned by large farmers and absentee owners" (p. 3).

Politically prominent individuals from the coast have historically been the most aggressive land buyers, particularly in Bong County which is most vulnerable because of its proximity to Monrovia. Even in more distant areas, coastal people now use their positions to pressure local farmers and chiefs into selling them land. In one case a chief who refused to allow a "big shot" to buy hundreds of acres of tribal lands along a road was evicted from office by high officials who trumped up charges against him: one of which was that he was "against development."

However, because such tactics are heavy handed, outsiders prefer more subtle persuasion methods whenever possible. One strategy used by coastal people is to claim tribal ethnicity. Many of these claims are indisputable, but bear a certain irony because until recently, people with aspirations of social mobility vigorously denied their tribalness as they strove to blend into "civilized" society.

Another strategy is for an outsider to tantalize villagers with the possibility of building a road if they allow him to purchase land in the area. This, of course, is strong bait. Officials with ties to the county government, the Ministry of Public Works, or international donor agencies are especially likely to arouse the interest of villagers with such promises. We heard of many cases, moreover, in which chiefs actually offered land to important national officials from whom they sought powerful patronage ties, justifying their actions to fellow villagers in the name of "development."

Within tribal customary law, independent farmers have rights to the land they farm. Under traditional practices, these rights were guaranteed by the authority of tribal leaders.⁸ When land purchasing through the national government was introduced to encourage more intensive commercial uses of the land, many farmers viewed these suggestions as merely another ploy to extort money from them by "civilized" Monroviaans. It is becoming increasingly obvious, though too late for many, that land boundaries must be safeguarded with more than termite mounds. Consequently, many farmers have consequently turned to planting tree crops to stabilize claims to the land.⁹

8 The 1979 Ministry of Agriculture draft report points out that most farmers in the traditional farming system seem satisfied with tribal land ownership and allocation, and they feel secure in their rights to land. However, "It is not clear whether they would feel the same sense of security and satisfaction with continuous cropping of land, especially where substantial improvements were involved" (p.3).

9 These findings call into question a generalization contained in World Bank data that small farmers are discouraged from planting cash crops because of their insecure claims to the land they farm.

In the northwestern part of Liberia, for example, where population density is high and land buying active, we observed farmers planting coffee and cocoa around the perimeter of their rice and vegetable plots. The new varieties of coffee mature in three to five years and can be harvested for up to fifteen years. Hence, a farmer hopes to secure his claim to the land for at least another 20 years. All these efforts, however, are meaningless in the face of a land deed. We heard of several farmers losing land they had tried to secure through tree crops when someone appeared with a deed.

Technically, subsistence farmers could buy the land; such rights are guaranteed to any Liberian citizen. Laws stipulate that tribal land may be bought only by obtaining the approval of local elders, chiefs and county officials, and ultimately the President himself. However, there are several problems. First, some fourteen steps are required by the legal process. This alone discourages many subsistence farmers from trying to obtain land. It is often extremely difficult to get an application on the desk of busy county officials, to say nothing of the President.

Even those who know how to process a land deed feel quite intimidated. There are logistical problems at every step: having to follow officials around to get required signatures on deeds (or hiring a lawyer to do it), contracting a surveyor in Monrovia to journey upcountry, and so on. There are also fees to pay at many steps: \$1.00 per acre for the land itself and another \$1.00 per acre for the surveyor. In addition, there are a series of "extra" charges that must be paid to the surveyor and to many officials before they will sign a deed. One man reported that he had to give a clan chief \$7.50, a paramount chief \$15, and a district superintendent \$25. His deed had gotten stalled at that point, however, because he had run out of money, so he was not certain what the charges would have been at higher levels.

Finally, even if an individual manages to obtain a deed, he must be prepared to defend it against an increasing number of rival surveys and claims. He should be present to show his deed every time someone else wants to have some nearby land surveyed. (It is difficult to find out when such surveys are going to occur since they are announced only in Monrovia newspapers with no circulation upcountry.) And, he sometimes has to hire a lawyer to defend his claim. The complexities, problems and frustrations for an isolated farmer with few resources are forbidding.¹⁰ The process thereby precludes effective action of all but a few. Only when high officials want to purchase land are the obstacles significantly reduced.

Despite the difficulties for individuals, some observers believe that the impact of land alienation and the commercialization of agriculture

10 The 1979 Ministry of Agriculture draft report concurs (p. 3).

is relatively benign. They perceive a willingness of many owners to allow farmers to continue farming the land, paying only modest rents since the owner's main interest is in the investment opportunity provided by land speculation. They also point out a growing tendency for local residents to acquire land, instead of urban groups. This is seen by some as a source of employment opportunities on the land, and of greater security for a large number of extended families. These arguments rest in large measure on assumptions regarding the availability of viable subsistence land as well as the good will of those commanding the resources.

These assumptions are increasingly questionable. Land abundance, once a source of real options for farm families, is threatened by rapid population growth, as well as by the growth in concessions and land speculation. Commercialization in general poses a similar threat as land owners are more willing to plant tree crops that effectively displace subsistence farmers forever. We were told that in several instances when a large owner decides to commercialize a holding, he allows people living on the land to clear a plot for their rice farms as before. But at the end of the harvest the owner plants his coffee or cocoa farm on the cleared area. As farmers move on to new plots, the same pattern occurs, so that soon little subsistence land remains. As subsistence land gets tighter, more time must be spent producing the same amount of rice. The farm sites are farther away from the village; plots grow larger; fallow periods grow shorter; more time must be spent burning the younger, denser bush; and more seed must be sown. At this point some farmers must move further upcountry away from the conveniences of the road, work on the land owner's cash crop farm as landless laborers, or migrate to urban or concession areas, hoping to find employment to support their families.¹¹

The fact that more indigenous people are buying land does not seem to make a significant difference in impact. Local land buyers can in fact be worse than outsiders because they know which land is most fertile, and therefore most desirable to acquire, and because they understand the nuances of the local farming cycle. In more than one instance, a wealthy tribal member has quietly bought up a sizeable portion of land near town, waited until a farmer had laboriously cleared it to make a rice farm, and then ordered the farmer to leave. The new landowner then planted tree crops on land that was quite fertile because it had not yet been planted with rice.

¹¹ World Bank data reflected a conservative estimate that the 1979 unemployment level in Monrovia was 21 percent and worsening rapidly, due primarily to the stream of migrants into the city.

. F. Environmental Implications

The disruptive action of land buying combined with the move toward cash cropping may be having a serious impact on the environment. Continual use of the land for cash cropping without replacing soil nutrients can itself damage the soil. Shortened fallow periods on subsistence lands are also causing environmental problems. In certain parts of the country tough "elephant grass" is appearing for the first time, making it extremely difficult to clear the land and farm a crop. Lumbering operations in heavily forested areas also expose fragile soils to rainfall and erosion. Their suitability for crop cultivation may be irrevocably damaged. In the concession areas served by roads, observable ecological changes are taking place. Road crews building the Zistown-Zwedru road during the early 1970's complained of elephant herds disrupting their camps. Now, there are hardly any elephants or other large animals left.

G. Effects of Migration

Some of the most serious consequences of roads and land buying arise from migration to cities and concession areas. These were apparent particularly near long-established roads and in rural areas closer to Monrovia, where land buying has historically been most prevalent. Children, for example, are affected in mixed ways by roads and land pressures. Some benefit from the roads through education and health services. Others are adversely affected by their elders' migration away from the roads to find more fertile subsistence plots. Girls often accompany their parents and forego the possibility of attending school. Children left in town to go to school when their immediate families move onto the farms stay with distant relatives or acquaintances -- or sometimes by themselves -- and must adjust to less supervision and concern for their well-being.

Some women can acquire independence and mobility, as we have seen. But when labor and farm land along the roads get scarce, women, particularly from poor families, are among the first to be sent further up-country to make rice farms for their families. Because many men are away, more of the burdens of the farm fall upon the women. Those who go back into the bush lose the benefits of the roads: better medical care, marketing, and educational opportunities.

Young men, of course, sometimes acquire education and wage jobs in concessions or in cities. Since they can now acquire wealth on their own, moreover, young men marry independently of their elders' support and thus achieve status much earlier in life than was previously possible. Yet, as their labor is lost, families must compensate for peak farming periods. These are long term problems even for men who migrate for wage jobs.

Old people generally seem to suffer from the migration of young people and from the hardships that sometimes make it necessary for them to move. Despite their increasing age and failing strength, older people are usually left in the bush or sent there to make rice farms for their urban relatives. They frequently complain about the lack of meat, and of someone to hunt meat for them, and about the distances they must go to reach clinics when "country" medicine does not suffice. They also complain, with some justification, about the lack of support they receive from their children who no longer depend upon them for bridewealth, loans, or counseling.

V CONCLUSIONS AND LESSONS LEARNED

A.I.D.'s rural roads in Liberia have had mixed effects. Though the projects intended to strengthen the capability of local contractors, this has generally not happened. Similarly, with many pressing demands placed in it, the government has had difficulties in coordinating and administering the road construction projects and in carrying out maintenance programs. Many of the aims of the projects, however, have been realized as a result of A.I.D.'s assistance to the government. Agricultural production of cash crops increased, access to markets improved, extraction of mineral and timber resources was facilitated, and welfare and social services provided by the government have been enhanced.

On the negative side, the facilitation of cash cropping, lumbering, and mineral exploitation from improved transportation has resulted in some environmental deterioration of the land through increased pressure for shortened fallow periods and interruption of normal ecological cycles. In addition, as the market value of the land for these cash enterprises has increased, competition for the land and its resources has sharpened. Small farmers who have traditionally farmed the land are the first to lose rights to it. This forces them to move further away from the roads and from improved services, or to work as landless laborers for large farmers. Those who feel they have some chance to get a job in the city join the flow of urban migrants. The net effect is the loss for the country as a whole -- rural as well as urban people -- of a fundamental component of economic security and social stability.

Those with wealth and political influence, on the other hand, regardless of their ethnic background, have clear advantages in acquiring legal title to the land. Even for many of these, however, extension services and credit (critical to the success of cash cropping) are seldom available. Moreover, as farmers stake their futures in the cash economy, they grow increasingly dependent on foreign markets for the cash to purchase subsistence foods. They are also more vulnerable to fluctuations in the cash economy, as well as patrons who may be more distant and powerful, as well as less responsive to those who depend on them.

Our concern throughout this impact assessment has been with the questions regarding which people benefit and in what specific ways as a result of the roads. (And conversely, which people suffer and in what ways). In answering these questions, it is difficult to assign an overall positive or negative rating to the road projects. Certainly in the short run, there is a flush of positive benefits that occur. Over the long term, people who are able to retain their land in the rural areas can continue to take advantage of the improved health, education and commercial opportunities. For those who are displaced from their lands, however, the negative impacts are substantial and will likely have serious political, economic and social consequences for the nation as well.

Two fundamental lessons emerge from the evaluation. First, the Liberian rural roads experience underscores the importance of addressing development problems systematically. If people are to take full advantage of the access the roads offer, questions of the distribution of resources and benefits need to be addressed. In conjunction with building roads, it is necessary to build viable local communities and to ensure people's rights to land as well as to such things as credit, production and marketing assistance.

Secondly, in the 1980's, changes occurring in the rural areas of Liberia should be central to the concerns of A.I.D. and to the Government of Liberia. Since access to land is a critical fulcrum upon which stability rests, any development activities concerning the land should be undertaken with great care. At best, small farmers' rights to land will be secured and the inherent sufficiency and stability of the rural society maintained as local communities become integrated into the national and global economies. At worst, stratification within the society will intensify as the bulk of the nation's farmers find themselves isolated from economic and social opportunities.

APPENDIX A

POSTSCRIPT: LIBERIA'S COUP AND THE ISSUE OF RURAL DEVELOPMENT IMPACT

APPENDIX A

Postscript: Liberia's Coup and the Issue of Rural Development Impact

Before the coup that brought the Tolbert government to an abrupt end, there was evidence of a growing recognition within that government of some of the basic political and administrative issues in which there had been action to increase the number of government ministries. Previous Page Blank ad by election, the ruling True Whig Party had begun significantly the consultative process for candidate selection, and central government ministries were required, in the name of national integration, to set up offices, or additional offices, at the county level. Then in June of 1978, President Tolbert issued an executive order ("Strategies and Tactical Measures for Rural Development in Liberia") which reaffirmed national economic objectives but suggested that both their attainment, and the distribution of benefits broadly throughout the society, required additional, more fundamental changes in Liberia's governing institutions. Specifically he called for (1) a decentralization of responsibility and authority from the central to county governments; (2) popular participation in the identification, planning, and implementation of development programs; (3) the coordination of development projects and programs of the various agencies working in rural areas; and (4) the creation of explicit linkages among sectoral programs operating in rural areas so as to make them more supportive of general development objectives. A directive was sent to all government agencies in Monrovia and in the various counties and to selected private sector organizations involved in rural development activities; they were to begin immediate steps to reorient their procedures and activities in light of the executive order, and to submit suggestions for ways in which their functions, administrative arrangements, and activities could be restructured in light of the directive. Moreover, with United Nations' support, a Rural Development Task Force (RDTF) was created to monitor these efforts, to undertake action-oriented studies of important issues in rural development, prepare guidelines for facilitating decentralization, and prepare more detailed guidance for subsequent action in the wake of early experiences with the reform effort.

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From the mid-1970s on, related efforts were underway, within the government and international development agencies, to consider ways of strengthening agricultural cooperative societies, and eventually of increasing significantly the number of those operating in smaller communities. In the major rural development project areas then established in the country, marketing cooperatives were being developed as mechanisms for assuring both the involvement of village farmers in the agricultural development process, and that the returns they received from their new associations would insure their continued participation. The smallest of these associations, so-called "town" or "primary cooperatives", were seen by development officials as particularly relevant since they would be made up of relatively few individuals who were in regular contact with each other. Here the chance for weaker sectors of society to receive extension services and to influence marketing arrangements would be greatest. If complemented by basic political and administrative decentralization in light of Rural Development Task Force recommendations, cooperatives could extend their operations to other areas of public need and interest and become one leading sector in a more popularly based development effort.

These organizational goals were pertinent for several reasons. Liberia's rural development efforts, including rural road construction, were sure to create new demands and to test the fragile, if long enduring, accommodation between the nation's center and the periphery. National integration was therefore a fundamental goal, but one whose attainment was always uncertain given the relatively greater difficulty in building political institutions, as opposed to economic ones. This institutional gap, implicitly recognized in the President's directives on rural development, was already creating a diffuse populism; one which took on a "we-they" character as the rural public recognized the relatively greater capacity of established groups to capture land rights and other resources, and as the greater opportunities for communication made interaction within rural society easier. This is not to say that most people focused on the ideological or ethnic implications of this pattern of benefits; for the more common (and rational) response was to search for new, more powerful individual patrons, rather than to turn to any affinity groups. To cut across this growing patronage network, and to create local institutions which could both represent the interests of rural Liberians, and provide a context within which they could compete on a more equal basis for valued goods, was the difficult task which the government had identified. The question was whether or not it was willing (or able) to carry out the steps required to achieve these goals.

In fact, obstacles were thrown in the path of some of the decentralization from the beginning. Reports of the Rural Development Task Force indicated considerable unwillingness on the part of several important ministries and agencies to provide basic data, and an even greater reluctance to take steps commensurate with the decentralization directives. In their resistance they may have had the tacit support of President Tolbert. He did have an interest in decentralization sufficient to get better ministerial representation in regional and district centers so as to increase his capacity to secure reliable information and to implement his policies. But the President seems to have given no significant support for the RDTF proposals or for the decentralization of planning functions and the establishment of effective village, district, and regional development institutions.¹ Moreover, his reluctance to push this type of reform was increased by the April 1979 riots in Monrovia which, while precipitated by concerns over rice prices, raised questions about the government's very capacity to control political events in a crisis situation. (In any event, even if fully implemented, the main RDTF proposals would have left the primary power for development planning with the central government, and participation of villagers in the process would have been indirect at best.)

By the time our evaluation team arrived in Liberia, officials in government, and the RDTF, and many others who had been interested observers of the debate within the government on these issues, were giving us a decidedly pessimistic impression regarding the future of the Task Force recommendations. There was some hope that portions of the recommendations might be implemented over a five year period, but little sense that a significant reform effort would be forthcoming.

Many of the officials with whom we spoke, especially those working at the county or district level, were deeply concerned about the lack of administrative autonomy available to them, and also with the general absence of mechanisms for popular participation in development efforts. Strong statements were made regarding the confusion and inefficiencies created by over-centralization and the lack of coordination, and by the corruption which so deeply affected administrative decisions.

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Richard Fulton, "Development Planning in Liberia: Central/Local Communications", (Unpublished paper presented at Annual Meetings of African Studies Association, Los Angeles, October 31, 1979).

Most of the institutional adaptations that had occurred (e.g., creation of a few local development councils, and the creation and monitoring of a number of cooperative marketing societies) were seen as insignificant, and as providing few obstacles to the power of established individuals and groups. Other observers disagreed with these pessimistic assessments, and saw a more positive potential in the already existing cooperative societies to develop a greater number of services and to become more representative, and they saw some evidence this was happening. But even these individuals agreed that relatively little progress had been made, or was likely, in creating the major institutional changes called for in the President's executive order on rural development.

The Government of Liberia was thus caught in a classic dilemma. Even if President Tolbert had recognized the immediate threats to his regime and his person, and had concluded that truly meaningful political and administrative changes could no longer be postponed, he could have done very little to effect the necessary changes. For in this instance, "political will" required not only commitment from leaders, but responsive citizens capable of operating through organizations which are legitimate in their eyes and which are capable of expressing their interests effectively in the making and implementing of public policy. And if the President could and had made the commitment, it is doubtful if he could have secured the institutional base of support in an acceptable time period. He was a servant of individual networks of interest -- even as in many ways their master. Moreover, the economic transformation which was underway in Liberia, as well as limited organizational changes, were continuing to complexify and extend these patron-client networks, and not to create a political system responsive to public issues. It follows that whatever the final form of Liberia's new governmental regime, it too must face a highly diffused and personalized political apparatus in spite of the fact that some of its civilian leaders have been active in beginning the process of building an organizational base.

What could U.S.A.I.D. have done differently in its rural development/rural roads programs in Liberia to have met these problems -- to contribute to rural growth with equity and to change without violence?

Perhaps very little, for reasons already given. But the central message we wish to offer, while general and unoriginal, is simply this: All development efforts should account fully for the fact that there are decided and ultimately unacceptable costs in failing to consider the distribution of political power and the means for securing opportunities for the poor to share power.² A.I.D.'s rural roads, and rural development efforts, might well have included greater attention to opportunities suggested by the RDIF effort; but also by more encouragement of voluntary development efforts within villages since even "the briefest study of almost any (West African) community today would reveal the presence of the pervasive voluntary associations which are already developing their communities".³ This is not to say there was no such concern; for many in the U.S.A.I.D. mission in Liberia were aware of, and interested in, these institutional possibilities. Moreover, A.I.D. has sponsored a good deal of work with agricultural marketing cooperatives, as noted previously. But we believe it is fair to say that here, as in most institutional support activities throughout the world, there has been more work organizing at official levels than involvement in the time consuming and frustrating process of seeing that village organizations actually evolve as responsible and productive bodies.

A focused concern for the empowerment of the poor, and a willingness to desist from programs where these concerns cannot be accommodated, is well within the range of options open to development institutions such as A.I.D. There is more opportunity than is usually perceived to work with host country officials, despite their presumed conservatism and aversion to political intervention. Programs for community participation, now commonly accepted at least tacitly by

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See also David C. Korten, "Community Social Organization in Rural Development" (Unpublished paper presented at Ford Foundation A and P Agricultural and Resource Staff Seminar, Yogyakarta, Indonesia, October, 1979).

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Graham B. Kerr, "Voluntary Associations in West Africa: 'Hidden' Agents of Social Change," African Studies Review, Vol. XXI, No. 3 (Dec. 1978) p. 93. Kerr also argues, based upon a review of these associations, that they generally offer significant opportunities for popular participation and for the mobilization of popular energies.

governments of developing nations as integral parts of their development strategy, could legitimately be used to justify structuring the project environment so as to provide collective and individual benefits to the poorest, while reducing their risks of economic disaster and of confrontation with elites.⁴ Such a balancing of costs and benefits is more a function of time and sensitivity than of money and political leverage.

In the Liberian case, the RDTF proposals may have offered possibilities for assistance in setting up local participatory and planning bodies as part of programs relatively unlikely to have attracted elite concern or financial interest -- for instance in maternal education and child nutrition. A core purpose of such efforts would then have been to see that mothers' groups were formed and plans made to support their perpetuation and their involvement with broader issues over time, and their eventual incorporation into a larger, decentralized planning apparatus. Other assistance in support of RDTF goals might have included help in securing historic and ethnographic data on villages, perhaps through the mobilization of youth or of voluntary associations, and the provision of instruction in basic social assessment techniques so that skills in organization and planning might be passed on in the process of generating valuable baseline data on communities. In a somewhat related effort, U.S.A.I.D. in Liberia was working on a proposal to study land ownership patterns there and had received indications of government interest and support. This would have provided information to use in checking excesses in the transfer of land and would, with the other organizational and information development projects mentioned, be supportive of larger efforts to affect the distribution of political and economic resources in the development process.

Additional attention might also have been paid to the ways in which cooperative societies might be structured to maximize their potential for increasing popular involvement in development. U.S.A.I.D.'s specific activities in recent years have included supporting the effort of the Liberian government to expand the number and reach of cooperative societies and the commitment and skills of those involved in cooperative development. Areas of support have included technical assistance to improve the functioning of the cooperative development division of the

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N. T. Uphoff, J. M. Cohen, A. A. Goldsmith, Feasibility and Application of Rural Development Participation: A State of the Art Paper. (Ithaca: Cornell University Center for International Studies, 1979). Also David Korten, "Community Social Organization in Rural Development.

Ministry of Agriculture, and help in developing training, audit, and management advisory services throughout the cooperative network. Partly as a result of this support, there has been a significant increase in numbers of co-ops, the numbers of them in small communities, and in functioning loan programs. Experiments in some cooperatives with improved auditing methods and with restrictive repayment requirements, wherein 90 percent of short-term loans must be repaid before additional loans are made, have also improved functioning, and perhaps generated a greater sense of collective responsibility among officials and members. Yet, many officials dealing with these societies, or otherwise knowledgeable regarding their operations, repeatedly expressed concern to us regarding the capacity of intermediary buying agents (often society board members themselves) to continue to dominate the marketplace and to take much of the profit derivable from commercial agricultural operations. Similarly, the dominance of the boards of the more powerful cooperatives by wealthier farmers and tradesmen reminded many of these same observers of developments which have undermined mobilizational and distributional capacities of such organizations in many developing countries. Consequently, they feared the institutionalizing of an even more extended patronage apparatus, which would make later efforts to expand and broaden the cooperative network more difficult.

Some of our informants provided suggestions for reform. In general, they were concerned that traditional values and existing local institutions be built upon as a base for cooperative efforts. Activities with workers and farmers undertaken by the Movement for Justice in Africa (MOJA), called *Susukuu*, and drawing on traditions of sharing financial resources and labor, were mentioned as indications of an appropriate direction, though many at that time expressed opposition to the social philosophy of MOJA's leaders. More specifically, our informants argued that within the context of current programs, reasonably low cost assistance in the development of reliable transport services for town cooperatives, tied eventually to collective hire purchase arrangements, and supplemented by more regular sources of information on crop prices, would be of special significance. These, if coupled with more intensive extension activities, would presumably provide incentives for local cooperative membership, and limit the advantages of larger farmers and tradesmen. Serious questions would remain, however, regarding the attraction of any marketing cooperative for the poorest farmers no matter how carefully the incentive structure might be designed. Efforts in support of very small, non-commercial agriculture would also be required. These undertakings might well build upon traditional mutual aid arrangements, using government "patronage" to support long-standing

credit networks, while also using the available channels for the distribution of information on improved subsistence farming.⁵ While such a program would imply a less immediate concern for developing among the poorest capacity for collective political action, it could set the stage for later efforts in this regard by expanding patronage choices and increasing economic security.

In any event, adequate concern for ascertaining and providing meaningful incentives to different sectors of the rural poor, and for the development and support of organizations to represent their interest, seems especially important in the wake of our experiences. To be sure, such efforts would run counter to some historic patron-client obligations and by themselves would not guarantee the creation of institutions capable of promoting effective competition in the marketplace and the political system, or of protecting the autonomy of subsistence farmers. Better ideas to help in this regard no doubt exist, and are especially likely to be found in discussions with the individuals involved. If citizen empowerment is given what we believe is a correct, and more central place in development programs, then persistent efforts to find those "narrow spaces" where action is possible should yield good results.⁶

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Other useful suggestions for building on traditional institutions in cooperative development are in J. W. Bennett, "Agricultural Cooperatives in the Development Process: Perspectives from Social Science," (Monograph No. 4 of the California Agricultural Policy Seminar, Univ. of California, Davis, May 1979).

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Considerable success in keeping local chiefs from playing a central role in town cooperatives in Bong County seems to reflect the determined efforts of an effective development project official to get chiefs to accept appointment only as advisers (or "wise men") rather than as cooperative chief executives. One international development agency official indicated to us his feeling that this was creating (in those villages which did set up town cooperatives) a broader power structure. More good farmers were seeing a chance to improve their lives through the cooperative mechanisms. The same official also reported, however, that similar efforts to by-pass chiefs by Lofa County officials had not been so successful.

In the most general sense, there is little that is new in these comments and suggestions. Several U.S.A.I.D. and World Bank project papers and evaluations dealing with rural roads development discuss many of these problems with insight and candor.⁷ Yet what most of those who support participatory strategies stress in their programming efforts is the provision of some emphasis on popular involvement in some aspects of the programs or projects in question. We find the argument of an eloquent young Liberian official - that the development of physical infrastructure should be ancillary to social and political institution building - to be a useful standard in this regard, and a corrective for those who would add "a dash" of participation to project designs. Links between popular participation and equitable growth are increasingly documented, often with negative examples from projects which failed to account for constituency interests.⁸

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As the specific documents we reviewed dealing with rural roads and their effects are all marked "not for general circulation" we are unable to credit them here. At least two were drafts of reports which will eventually be made public.

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N. Uphoff et. al, Feasibility and Application of Rural Development Participation. See also: Rural Cooperatives as Agents of Change: A Research Report and a Debate (Geneva: United Nations Research Institute for Social Development, 1975).

Participatory guidelines of the type we suggest here would certainly imply some reduction in the significance of economic and technical considerations in project design and implementation; for example, that road building, despite its obvious potential for good, should proceed no faster, even a bit behind, efforts to build institutions that provide the means for using the opportunities and resources the road will bring.⁹ We recognize the difficulties involved in such an approach and do not seek to minimize them. Organizational development efforts can be difficult for large development agencies to carry out, with results slow to come, hard to detect, and unpredictable. Moreover, there are also larger foreign policy issues related to the strategic requirements of the United States to consider. The Rural Roads II Project was partly a reflection of such considerations. We only argue here that the benefits of treating political and social institutionalization as of central importance in development programming will be greater, in terms of A.I.D.'s mandated objectives, than efforts which fail to do so.

9

Many would argue that this would require leaving some communities "undeveloped". The fact is that the value of doing just this, or at least of supporting forms of temporary village autarchy, is gaining some recognition in the literature on development. The fundamental assertion made in these works is that while small communities can be very oppressive, there is a greater chance to support meaningful participation and participatory organizations in communities isolated from global economic and political networks. Once the political base of these communities is established, community members could presumably become active participants in the global society with expectation of protecting their basic interests. (See Robert Gamer, The Developing Nations, (Boston: Allyn & Bacon, 1976) and Dieter Senghaas, "The Case for Autarchy", International Development Review, Vol. XXII, No. 1 (1980/81):3-10.

APPENDIX B

METHODOLOGY

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Team Members

Our Liberian rural roads impact evaluation team was composed of
(1) Richard Cobb, the team leader, a rural development specialist;
(2) Caroline Bledsoe, an anthropologist with field experience in Liberia;
(3) Robert Hunt, a political scientist; (4) Robert S. McClusky, an international cooperation specialist, and (5) Charles Vandervoort, a transportation economist.

Schedule, Itinerary and Sources of Information

We took about three weeks preparing initially in Washington for the trip. We spent several sessions as a group, both with the evaluation studies coordinators and by ourselves, developing the issues we thought would be most significant, talking about ways to approach them, and obtaining relevant documents. We also interviewed people in Washington who knew about Liberia and rural roads. These included people at USAID, the

Previous Page Blank the World Bank, Checchi and Co. (a contractor that had study of USAID's roads project areas), and various

Individuals on the team spent between three and four weeks in Liberia: from the early part of February 1980 until February 28. Three members left early to set up financial support arrangements, traffic surveys, travel schedules, transportation, and lodging, and had some preliminary discussions at the USAID Mission with Liberian government officials and faculty at the University of Liberia, and with members of organizations such as Peace Corps, CARE and Agricultural Cooperative Development International. Letters of introduction were also obtained from the Ministers of Local Government and Public Works to the various county superintendents where we planned to go. This proved essential in smoothing our entry into local communities and obtaining the cooperation of local officials. Because the USAID-sponsored roads are scattered over different ethnic areas of Liberia, we hired five main research assistants (primarily University of Liberia students) in Monrovia to accompany us to four sites, and arranged for a Liberian USAID employee who speaks the dominant language of the Harper area to meet the team member who visited that site.

The five team members traveled to Sanniquellie on February 13 in an AID vehicle and a locally hired taxi. We took with us a Liberian USAID employee, two representatives from the Ministry of Public Works to assist with traffic counts and the two research assistants who were from the Sanniquellie region. Later, a second Liberian AID staffer joined the team. (The Liberian AID employees joined us in response to our invitation to Mission personnel to participate in the study.)

Once settled, we toured the AID-sponsored roads and began to interview people. The transportation economist on the team inspected the roads, interviewed taxi drivers and users of the vehicles, and set up the

traffic count. Three local high school students in each area were hired to do the actual surveys. We used this time together in Sanniquellie to confer with each other about our findings and methods and to discuss what we wanted to investigate in subsequent sites in order to draw comparisons between regions.

We split into two groups on Sunday, February 17, one group of three people going to Voinjama in a hired taxi, accompanied by one Liberian from the AID Mission. The other two went to Zwedru in the A.I.D. vehicle and another taxi. This group was accompanied by the second Liberian AID employee and the two Ministry of Public Works employees. At Voinjama and Zwedru each group met the university research assistants we had hired earlier in Monrovia who spoke the languages of these areas. From Zwedru the transportation economist went on to Harper, in Maryland County.

Following completion of field work, the various team sub-groups reassembled in Monrovia. Subsequently, two team members and another research assistant went back upcountry briefly to Bopolu, a town located along the recently approved Rural Roads III project. At this time an existing track goes only a couple of miles past Bopolu, so this town was used as a control area to see what the area was like before the road went through and to see what activities were going on in anticipation of the road. (We were at that point interested primarily in land purchasing.) It resembles the other project areas because of its population and volume of trade.

We concluded our stay in Monrovia with several days of interviewing, informal conferences, and initial drafting of the report. We also debriefed members of the AID/Liberia Mission and found their reactions useful in giving us a broad perspective. Back in Washington, we completed the report.

Research Methods and Kinds of Data

Liberia is a difficult country in which to collect systematic quantitative information. Data from the 1962 and 1974 censuses are broken down in inconsistent ways, and are often unreliable. Moreover, in Liberia secrecy is a paramount value. Information is like property and is carefully controlled. As a result of historical, as well as present political conditions, moreover, strangers are highly suspect and are dealt with cautiously. Many times a person with whom we tried to initiate a conversation courteously told us that he really didn't know much (even when asked about his own life), and suggested that the town chief or leading elder would be much better informed. This led on several occasions to formal meetings with such authorities who proceeded to answer our questions in the most vague, idealized ways.

Moreover, our stays were brief and rapport with many people was difficult. We realized that as numbers of people interviewed increased we would also lose reliable, insightful information. Accordingly, we decided to

collect quantitative information when it was already available and relevant. We did administer questionnaires extensively for traffic surveys, stopping vehicles at check points and interviewing passengers about their itineraries, goods transported, purposes of their trips, transportation costs, and so on. Even so, the interviewers - who were local residents - reported frequent reluctance to answer questions, perhaps because the respondents feared the interviewers were collecting taxes.

We obtained other quantitative information from the two Liberian censuses and from the baseline studies done by Checchi and Co. on the AID road areas. We also obtained statistical information to determine the relationship of farmers' proximity to the A.I.D. Kolahun-Kamatahun to their participation in the local cooperatives. We also tabulated a sample of some traffic count forms that were collected in a recent survey by Lofa County officials in order to get a rough idea of the road use in that area.

Finally, we made general quantitative observations on several variables that seemed relevant to different problems we were interested in, such as ratios of "zinc" (corrugated iron) roofs to thatch roofs on houses, percentages of children in school, ratios of youths to elders, amount of deeded land, and size and location of deeded land holdings.

Because of our concern for good qualitative information, we relied heavily on intensive methods of investigation to obtain an in-depth understanding of predominant patterns as well as exceptions from the patterns, and to determine reasons for both of these. These methods included private interviews, case studies, anecdotes, some participation observations, and general statements of economic, social and historical trends. Our interviews were generally structured only by directing the conversation toward the themes we were interested in such as land tenure and availability, education, farming, health, communication, family relations, patronage, and participation in local politics.

This relatively informal style allowed local people a chance to see that we were not there to get them in trouble politically, so many did relax and open up. It also allowed us to pursue in depth some unexpected but important points that emerged in the course of an interview, and to drop topics or indicators we had previously considered important, but later found were not useful. For example, we initially thought that "zinc" (corrugated iron) house roofs, in contrast to thatch roofs, were important indicators of prosperity but toward the end of our stay we discovered, through an interview, that people borrow beyond their means to obtain zinc roofs. Subsequently, though we continued to make casual observations about the proportions of zinc and thatch roofs, we took a new interest in the numbers of children attending school, after someone pointed out that this was a much better indicator of prosperity.

These methods of intensive investigation also allowed us to spend a lot of time with individuals who seemed the most frank and with those who

were analytical and insightful (many of whom were illiterate), and to diplomatically extricate ourselves from interviews that were clearly unproductive.

Although many of the people we interviewed spoke English, our university research assistants were invaluable as facilitators because of their ethnic and kin ties to the areas. In most cases these students were excellent, initiating conversations, suggesting appropriate behaviors and verbal phrasings, and often asking questions of their own that were better than ours. We soon came to view them as colleagues rather than simply assistants, and, of course, in instances in which villagers did not speak English, our assistants frequently initiated portions of the dialogue, or provided direct translations. To further develop rapport, since we usually stayed in guest houses of county superintendents (because of the numbers of people in the group), several members of the team walked into communities away from the road and spent the night in small villages. This was appreciated by the villagers who saw that we were not too proud to sleep on "country beds" (palm fiber mattresses) and take "country showers" with a bucket of water and a dipping cup. In one case this resulted in an evening town meeting in which we led an open minded discussion about roads and social change, and in another case it led to extremely frank interviews with several of the townspeople who otherwise would have been much more reluctant to talk.

Given our intensive methods of investigation and the importance of good qualitative data, we did not sample the population or even relevant towns systematically in order to interview. Instead we stopped at a few towns along each road after we had toured the road, talked to various people about the problems of the region, and isolated the central issues of interest in that locale. In the Voinjama area, for example, we spent some time in Kolahun, where there is a particularly active farmers' cooperative. We also stopped further down the road at Kamatahun, where there is no cooperative to see if we could isolate some factors that would explain the differences in participation in the coops between the two towns.

Our sample is not systematic, therefore, but to gain some systematic sense of variation, we have used several kinds of controls to make comparisons and to get a sense of causation. These basically involve variations in the kinds of roads, geography, time, and kinds of people within and between groups.

A. Kinds of Roads

(1) New versus improved roads. Some of the roads we investigated had been built where none had existed before. Others were improvements of existing tracks that were passable by vehicles and had been in use for some time. There were often substantial differences in the speed with which changes were occurring in the two situations.

(2) "Feeder roads" off the main A.I.D.-sponsored roads. Here we were interested in how and when feeder roads were built and in comparing the conditions of these roads with the AID roads. The World Bank is presently engaged in an extensive program of feeder roads construction, but the roads we looked at were mainly "self-help" roads, constructed and maintained by the local people, with occasional help from the Ministry of Public Works or from nearby concessions for a fee. (In several cases we found that these were well maintained. Local villagers were so anxious to keep them open that they patiently cleared the roads after huge logging trucks regularly tore them up.)

B. Geography

(1) Regions. The roads were dispersed in different areas of the country that had wide differences in ecology, agriculture, commerce and population density.

(2) Towns along different parts of the roads. There were wide variations in the towns along each road, as the example in the Voinjama region reveals (see above). On the Zwedru to Ziatown road we conducted interviews in the towns at both ends of the road, as well as in three villages along the road.

(3) Towns on the roads versus those off the roads. The longest distance off the road that we walked to a village was about three miles. We also asked questions about people's relatives and their towns that were many hours off the road. Such information is probably less reliable than that collected in face-to-face interviews, but it did give us a basis for comparing social and economic differences between areas near roads and areas more distant from them.

(4) Areas beyond the AID-improved road sections. The problem in Kamatahun, in the Voinjama area, was to examine the implications of not improving part of an extant road. Insight into this also arose in Zwedru. Local people repeatedly cited the problems that resulted from failing to construct a continuation road linking Ziatown with the main Harper-Monrovia road.

(5) A town that has had a road since the late 1940s. This is a town in Bong County where one member of the team had done extensive field research six years ago, had revisited in 1978, and asked follow-up questions about during the present evaluation study. Since Bong County has had a particularly pronounced history

of land buying from elites in Monrovia as well as local towns, this provided a contrast with more remote areas where land buying and road building have come much later.

(6) A town where an AID road is planned but has not gone through. This was Bopolu. Here we wanted to get a sense of the differences between this town and those on thoroughfares that have been completed. We also wanted to see if we could observe some of the same changes (land buying, business consolidation, migration, and so on) at earlier stages than we observed in other towns, in order to make clearer statements about the processes by which these changes take place.

C. Diachronic data from the same individuals or towns.

Although we used the 1962 and 1974 Liberian censuses and data from the earlier Checchi studies to get a sense of before and after situations, we also asked people how things were for them before the roads were built or improved, and how that time compared to the present. When this question was phrased in terms of roads as the causal variable, the people we talked to tended to accentuate the hardships of the past and the better life of the present. They tended to be much more negative when we phrased before and after questions simply in terms of changes in the fertility of rice farms, the availability of land, the behavior of young people, and so on.

D. Different kinds of people. Although it was difficult to obtain a good cross-section of different kinds of people in all locations (women and older people were particularly hard to establish rapport with), we did try to talk to -- or at least obtain fairly reliable information about -- people of different ages, ethnic groups, sexes, occupations, and political and economic statuses. We compared this information within towns as well as over the region and country as a whole.

Sources of Information

During the course of the study we attempted to obtain information from a wide variety of people and resources. The following list gives a sense of some of the people and resources we used. Because we want to protect the identity of those who exposed themselves to possible retribution by talking frankly to us, however, we have made a conscious attempt in the report to disguise actual names and specific titles.

People and Sources

AID/Washington

AID/Liberia

World Bank

Checchi & Co.

U.S. university scholars

Partnership for Productivity

Peace Corps staff and volunteers

CARE

Agricultural Development International

University of Liberia scholars

Liberian government officials

Ministers and ministerial sub-officials (e.g., Ministry of Public
County Superintendents Works, regional agricultural
District Superintendents representatives, foresters)

Paramount Chiefs

Clan Chiefs

Town Chiefs

Community Elders

Townspeople

Liberian college and high school students

Merchants

Transport business people

Road construction contractors

Missionaries

APPENDIX C

NOTES ON EFFECTIVENESS OF RURAL ROADS I AND II

APPENDIX C

NOTES ON EFFECTIVENESS OF RURAL ROADS I AND II

This appendix provides further selected information on the effectiveness of the Liberian Rural Roads I and II projects. It discusses early project planning and implementation problems, maintenance issues, economic feasibility of the roads, and competitiveness of the Liberian transport industry. It will give the reader some of the background that went into the assessments found in the main text of the report.

Planning and Implementation

In 1965 the Government of Liberia (GOL) submitted a list of eight candidate roads for consideration by A.I.D. The basic GOL purpose was to:

"open up the country to connect presently isolated population and produce centers, to strengthen the political unity of the country which was only a few years ago unified by the formation of new counties in the roaden the economic basis of the Government by develop-
Previous Page Blank e and forestry." ¹

The GOL had selected these eight rural road projects from a priority list of sites compiled by Government agencies in consultation with officials, such as the County Superintendent, District Engineers, and other local representatives. The Government anticipated that the Plebo-Barclayville and the Kolahun-Kamatahun roads would comprise part of the major highway system. In particular, the Plebo-Barclayville road would form part of the ultimate coastal road system connecting Cape Palmas with Monrovia.

The request was reviewed by the A.I.D. mission which then selected three of the eight roads for construction under Rural Road Projects I and II. The Sanniquellie-Sagleipie road, part of an earlier but uncompleted A.I.D. grant project, was added as a fourth road.

The economic feasibility of these roads was never rigorously established, but was based on the judgment of the A.I.D. mission and Dr. Stanley, a geographer with extensive experience in Liberia and with the country's road transport system. Dr. Stanley visited the project sites and in about one month's time developed screening criteria based on the estimated population served by the road, the agricultural potential along the road alignments, construction cost, and other considerations. These screening criteria were combined into an overall index providing a crude indication of the economic feasibility of each road.

1

"Supplement to Application for Development Loan from the Government of Liberia to the U.S.A.I.D., May 31, 1966."

Though the roads fall into the primary and secondary road classification, the projects were conceived by A.I.D. as farm-to-market access roads. This conflicted with the GOL intention that the roads would be elements in the main highway system, and for two years there was a deadlock between AID and the GOL over how wide the roads should be. A.I.D. stipulated a 15 foot width (including shoulders) with the GOL claiming that a 24 foot wide road would be more adequate for the traffic the roads would be certain to attract. Finally, as a compromise to both parties, a 20-foot wide road was agreed upon. As was discovered later, this width was indeed inadequate for roads on which both light vehicles and very large logging trucks operated, such as on the Zwedru-Ziatown road. Moreover, since the lack of brush cutting reduces visibility, the narrow and twisting road allows little space for sudden evasive action. At least one serious accident involving a logging truck and a pickup caused the death of 17 people on this road, and several smaller accidents and numerous near-misses have made travelers apprehensive about using the road.²

According to the GOL, A.I.D. stipulated that minimum engineering standards should be applied to the road projects in order to minimize costs. On the other hand, A.I.D. claims that it was the GOL which submitted plans that lacked sufficient technical detail to ensure that the projects could be built to standards acceptable to AID. In any event, the engineering of the roads turned out to be inadequate; in some instances only a walking survey was carried out, and the local contractors claim they were confronted with unexpected and major variances between the conditions described in the plans and those that were actually encountered. This was especially serious for roads that traversed heavy forests and swamps. The numerous costly and time consuming changes that resulted probably accounted for a large part of the 30 percent cost overrun on the Zwedru-Ziatown road and the expected 50 percent cost overrun on the Plebo-Barclayville road.

2

The Bopolu-Belle Yella road that is part of the upcoming Rural Roads III may have similar results. Although A.I.D. does not view this road as a major thoroughfare (it also will be 20 feet wide), several people in the Bopolu area stressed that it in fact will be, because of the vastly shorter distance between Monrovia and the highly populated, economically teeming area of northwestern Liberia. This proposed route may also serve a new iron mining company in the Wologisi range and its heavy trucks as well as those of lumber companies. The local people were very much aware that this route had historically been a major trade route and was likely to become so again. They voiced considerable concern over the potential number of traffic accidents as well as the safety of pedestrians and property with such a narrow road width.

According to the project files, Rural Roads II was a project undertaken in response to President Tolbert's visit with President Nixon in the spring of 1972, during which he strongly complained about the size of the A.I.D. program. In the brief span of one month, Rural Roads II was identified, a Loan Paper prepared, and the loan authorized. Because of the lack of adequate planning and analysis prior to loan approval, Rural Roads II was subject to more difficulties and delays than Rural Roads I, and major problems were due both to the contracting for the construction of the roads and to actual construction.

Obtaining acceptable plans and specifications for the road from the GOL took A.I.D. 5 months longer than expected. Another year was expended in resolving conflict between A.I.D. and the GOL regarding which contractor should be assigned the contract award, and a further nine months was required to solve problems encountered with the performance and surety bonds for the selected contractors. Work on Rural Roads II did not actually start until the Loan Terminal Disbursement Date had passed. Then, during construction of Rural Roads II, the inadequate engineering gave rise to the same costly and time consuming problems as those encountered during Rural Roads I.

Maintenance

As noted in the main report, maintenance of all four project roads is insufficient despite assurances by the GOL in the loan agreements that these roads would be adequately maintained. Therefore, vehicle operating costs over these roads are probably as much as 50 percent higher than they should be, and impose unnecessarily high transport costs on the road users. In addition, unless maintenance is commenced soon, the roads will deteriorate to the point where normal maintenance is no longer possible and large and unnecessary expenditures will be required in the future to rehabilitate or reconstruct the project roads.

The reasons for the poor maintenance performance in Liberia are varied and complex, but fall into a pattern that is common for most developing countries. This pattern is well recognized and is, for example, lucidly described in Judith Tendler's A.I.D. Program Evaluation Discussion Paper No. 2 "New Directions Rural Roads". She says that "One of the reasons that highway departments are bad at maintenance is that they have better, more interesting things to do -- building new roads, that is, rather than maintaining old ones." From the engineering point of view, construction is certainly more interesting and glamorous than maintenance, and engineers assigned to construction have better advancement potential. From the financial point of view, funds are more easily obtained for construction than maintenance since capital budgets for construction are often partly financed by donors and therefore easier to obtain than maintenance funds, which have to come from

the operating budget and are rarely financed by donors (though this is now being rectified). Finally, from the political point of view, road construction is much more "visible" than maintenance, and has a high exchange value in that legislators can trade support of a road construction project for votes desired for another project.

Over the past years there has been considerable investment by donors (including \$8,400,000 from A.I.D., mostly for vehicle and equipment procurement) and the GOL to improve maintenance performance. According to the IBRD this has produced a noticeable improvement in the adequacy of machinery and workshop facilities, and in the number of trained mechanics and equipment operators graduating from the training camp at Mechlin. Indeed, several of the graduates of that training camp were encountered in the regional Ministry of Public Works (MPW) office of Grand Gedeh County during our visit. However, this substantial investment by the donors and commitment by the GOL has not yet trickled down to improve the performance of the regional MPW offices responsible for maintaining the project roads. For example, the supply of spare parts and fuel to keep the project road maintenance equipment going is very uneven. In the regional motorpool of the MPW in Grand Gedeh County we were informed by a crowd of idle mechanics, operators, and laborers that the diesel fuel tanks had been dry for more than a month, and that this was a frequent occurrence. Furthermore, substantially more than half of the heavy equipment was not operational for lack of spare parts. We observed one modern bulldozer supplied by A.I.D. that had been deadlined for more than a year because the spare part supplied by Monrovia did not fit and had to be returned twice in a row. These are frequent occurrences and seriously impair the organization's capability to perform adequate road maintenance.

Economic Feasibility

The amount of traffic observed on the four project roads ranges from around 100 vehicles per day for the Plebo-Barclayville, Kolohun-Kamatahun, and the Karnple-Gbahn section of the Sanniquellie to Sagleipie road to about 240 vehicles per day for the Karnple-Sanniquellie portion of the latter road. These traffic levels are well within the range of 80 to 140 vehicles per day normally indicating the economic feasibility of unpaved roads. The ex post calculation of the conventional economic indicators of economic feasibility such as the benefit/cost (B/C) ratio, internal rate of return (IRR) and net present value (NPV) support the contention that the roads are economically feasible provided they are soon placed under regular maintenance.

To illustrate economic feasibility, the Internal Rate of Return is projected for two typical roads under Rural Roads I and II -- the construction of the new road where no road existed before, and the improve-

ment of an existing road which was in bad condition.³ The 33.2 mile long Zwedru-Ziatown road is taken as an example of a new road. The 12.25 mile long section from Kahnple to Garplay on the Sanniquellie-Sagleipie road is taken as a typical example of a road improvement project. These two project examples were selected primarily because of the availability of traffic data. The IRR calculations were done with conservative data estimates using two separate assumptions about maintenance: a) that there would be no maintenance so that reconstruction of the road would be required about every 5 years (this is the current practice in Liberia and is called the "no-maintenance" model);⁴ and b) that the road is maintained on a regular basis.

Under the no-maintenance model, Tables 1 and 2 show that the IRRs for the new road and the road improvement project are 10.3 percent and 7.9 percent respectively. This implies that the new road project without maintenance is barely feasible since the opportunity cost of capital in Liberia (according to the World Bank) is 10 percent.

With adequate maintenance, however, the IRR of new roads improves to 15.7 percent and the road improvement project has an IRR of 23.1 percent.

These IRR calculations suggest that the present Government practice of road investment followed by neglected maintenance, and subsequent road deterioration necessitating expensive reconstruction, may seriously affect the economic feasibility of road projects.

3

Note that the Liberian rural roads financed by U.S.A.I.D were built using capital-intensive techniques. Labor intensive methods are not feasible due to unavailability of rural labor force (because of low population density in most rural areas, high labor requirements of cash and food crops and possibilities, though limited, of employment in concessions and urban areas).

4

See Judith Tendler "New Directions Rural Roads", page 44, A.I.D. Program Evaluation Discussion Paper No. 2.

Table 1. Kainple - Garpley Road Project: An example of improvement of an existing road
Summary Economic Rate of Return Calculation (1980 dollars)

Year	ADT (Vehicles/day)	Construction Cost	No-Maintenance Model			With Maintenance		
			Road user Benefits	Road Reconstruction Cost	Net Benefits	Road User Benefit	Road Maintenance Cost	Net Benefits
1979	108	377,618	-	-	-	-	-	-
1980	113	-	48,129	-	48,129	96,248	21,000	75,248
1981	119	-	50,535	-	50,535	101,060	22,050	79,010
1982	125	-	53,062	-	53,062	106,113	23,153	82,961
1983	131	-	55,715	-	55,715	111,419	24,310	87,109
1984	138	-	58,501	122,500	-63,999	116,990	25,526	91,464
1985	145	-	61,426	-	61,426	122,840	26,802	96,035
1986	152	-	64,497	-	64,497	128,982	28,142	100,840
1987	160	-	67,722	-	67,722	135,431	29,549	105,881
1988	168	-	71,108	-	71,108	142,202	31,027	111,176
1989	176	-	74,664	122,500	-47,836	149,312	32,578	116,734
1990	185	-	78,397	-	78,397	156,778	34,207	122,571
1991	194	-	82,317	-	82,317	164,617	35,917	128,700
1992	204	-	86,433	-	86,433	172,848	37,713	135,135
1993	214	-	90,754	-	90,754	181,490	39,599	141,891
1994	225	-	95,292	122,500	-27,208	190,564	41,579	148,986
			Internal Rate of Return = 7.9 percent Net Present Value = \$46,712 Benefit/Cost Ratio = .88			Internal Rate of Return = 23 percent Net Present Value = \$378,353 Benefit/Cost Ratio = 2.00		

(B/C and NPV calculated at a 10 percent discount rate)

Table 2. Zwedru-Zietown Road Project: An example of construction of a new road

Summary Economic Rate of Return Calculation (1980 dollars)

Year	(1) ADT (Vehicles/day)	(2) Construction Cost	No-Maintenance Model			With Maintenance		
			Road User Benefits	Road Reconstruction Cost	Net Benefit	Road User Benefits	Road Maintenance Cost	Net Benefits
1971	118	1,134,126	-	-	-	-	-	-
1972	124	-	154,958	-	154,958	215,300	57,000	158,300
1973	130	-	162,706	-	162,706	226,065	59,850	166,215
1974	136	-	170,841	-	170,841	237,368	62,843	174,525
1975	143	-	179,384	-	179,384	249,237	65,985	183,252
1976	150	-	188,353	330,000	-141,647	261,298	69,284	192,415
1977	158	-	197,770	-	197,770	274,583	72,748	202,035
1978	166	-	207,659	-	207,659	288,523	76,385	212,137
1979	174	-	218,042	-	218,042	302,949	80,205	222,741
1980	183	-	228,944	-	228,944	318,096	84,215	233,881
1981	192	-	240,391	330,000	-89,609	334,001	88,426	245,575
1982	201	-	252,411	-	252,411	350,701	92,847	257,854
1983	211	-	265,031	-	265,031	368,236	97,489	270,747
1984	222	-	278,283	-	278,283	386,648	102,364	284,284
1985	233	-	292,197	-	292,197	405,980	107,482	298,498
1986	245	-	306,807	330,000	-23,193	426,279	112,856	313,423
(1) Assuming a 5 percent annual growth. (2) Adjusted to 1980 dollars			Internal Rate of Return = 10.2 percent Net Present Value = \$11,517 Benefit/Cost Ratio = 1.01			Internal Rate of Return = 15.7 percent Net Present Value = \$456,220 Benefit/Cost Ratio = 1.40		

(B/C and NPV calculated at a 10 percent discount rate)

Competitiveness of the Transport Industry in Liberia

With a competitive transport system the savings in transportation cost brought about by a road improvement project tends to be largely passed on to the users of the roads. In addition, because competition reduces passenger fares and freight tariffs to the lowest possible level, it will encourage the economically maximum use of the roads. The converse takes place in the absence of competition. The higher transport prices will reduce travel over the road and the benefits of the road improvement will go mostly to the transport industry. It is therefore important to assess the competitiveness of the transport industry on the roads that are being evaluated.

The Government encourages competition in the transport industry and regulation of transport is not excessive. It governs only vehicle licensing, registration, and safety inspection (not enforced). Tariffs for passenger transport between cities are set by the Ministry of Commerce, Industry and Transportation (the Division of Land Transport) and are frequently revised as gasoline prices increase. "For hire" trucking and passenger service, such as charter taxis, are free from regulations governing tariffs, entry, or route structure. In general, therefore, the situation is satisfactory with adequate competition among carriers where there is a sufficient supply of vehicles. Specifically, the competition is good on the Sanniquellie-Sagblepie road, fair on the Zwedru-Ziatown road, and because of limited supply of transport operators willing and able to provide the service, is poor on the Plebo-Barclayville road. Although not closely examined, competition in the transport industry is judged as fair to good on the Kolahun to Kamatahun road.

The primary reason for the different degrees of competitiveness along these roads is the varying adequacy of infrastructure (such as spare parts stores, repair shops, gas stations and banks) necessary to support the transport industry. Lack of such infrastructure means periods of time during which vehicles are not operable. This in turn, raises vehicle operating cost. Therefore, only wealthy vehicle operators with the cash reserves to cope with the unexpected expenses of vehicle breakdowns and with connections are able to operate in this type of environment. Thus, where the transport support services are inadequate, entry of operators into the transport industry is discouraged and the supply of transport will tend to be below the level required for adequate competition.

The lack of spare parts stores and repair facilities in the towns in the interior is a serious deterrent to the development of the transport industry. The shortage of these facilities is, of course, related to the overall lack of small industry in these towns, the most important

constraint probably being the shortage of sources for capital. For example, the town of Zwedru does not have a single bank. And, Sanniquellie, up to the end of 1979, had only one spare parts store, though this store is large and carries a good parts inventory. But because of the lack of competition from the other parts stores, prices for parts are 30 to 50 percent higher than for the same parts in Monrovia. In addition, vehicle operators needing parts complain of contemptuous and poor service, and this discourages entry of new operators to only the most hardy individuals.

Along the Sanniquellie-Saglepie road we heard few complaints from the road users about price gouging from vehicle operators. Service frequencies, though far from ideal, appeared satisfactory and waiting times for vehicles seemed reasonable. Along this road the passenger fares over the 1977-1980 time period increased at about the same annual rate as vehicle operating costs. Expenditures by the operators, allowing for fuel, maintenance, vehicle depreciation and overhead expenses, and return to investments were closely in line with revenues collected from passengers and freight. This indicates that the tariffs, as set by the Land Transport Division are high enough to encourage an adequate supply of transport service, and thereby reduce the likelihood of monopolistic profits.

Along the Zwedru-Ziatown road there is evidence that service levels are somewhat inadequate, with passengers having to wait along the roadside for an hour or more before being picked up by a taxi or pickup truck. Even though fares in that area are also regulated by the Land Transport Division the regulated fares do not fully take into account the higher vehicle operating costs in that area, and there are times during the day when demand exceeds supply and vehicle operators charge higher than the regulated fares. The primary reason for the higher than regulated cost of passenger transport services appears to be that the regulated passenger fares do not adequately compensate the vehicle operators for their cost and the kind of risk they have to take. The higher costs arise from the lack of sources of spare parts in Zwedru, giving rise to underutilization of vehicles. In Zwedru, there are only two very small spare parts stores specializing in only a few vehicles makes and carrying extremely small inventories. The operator of one taxi chartered by the team related that he had been waiting for more than two months for a much needed set of shock absorbers.

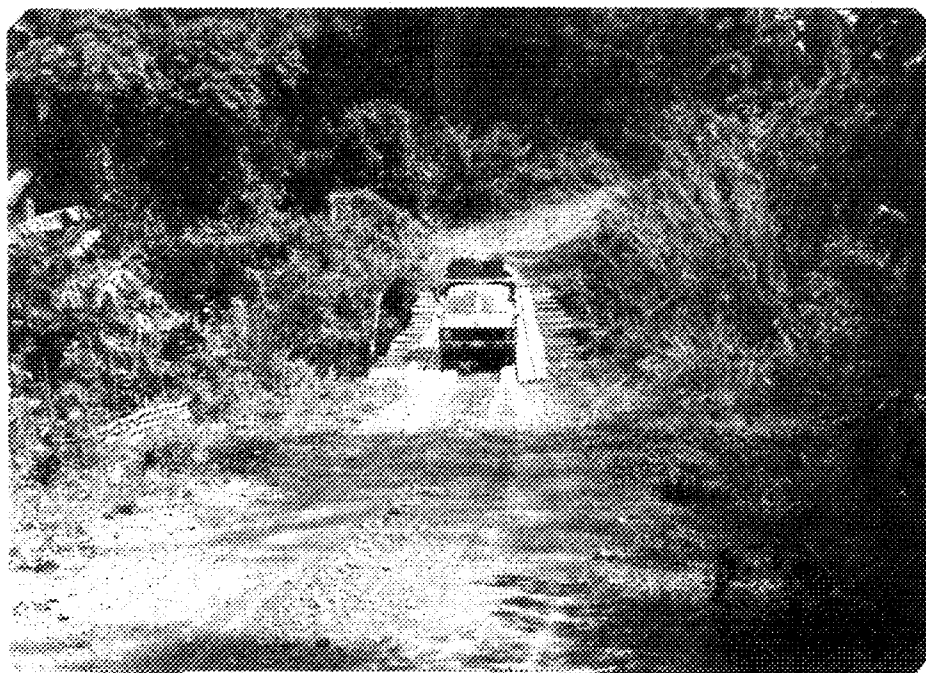
The Land Transport Division does not regulate tariffs for freight transport by taxis or pickup trucks, and the prices for transport of agricultural products along the Zwedru-Ziatown road appear reasonable and in line with what would prevail under free competition. Farmers in Ziatown pay \$1 a bag for the transport of their agricultural products to the Zwedru market. This charge is applied uniformly regardless of the

value of the agricultural product, whether it be low value cassava or high value cocoa or rice.

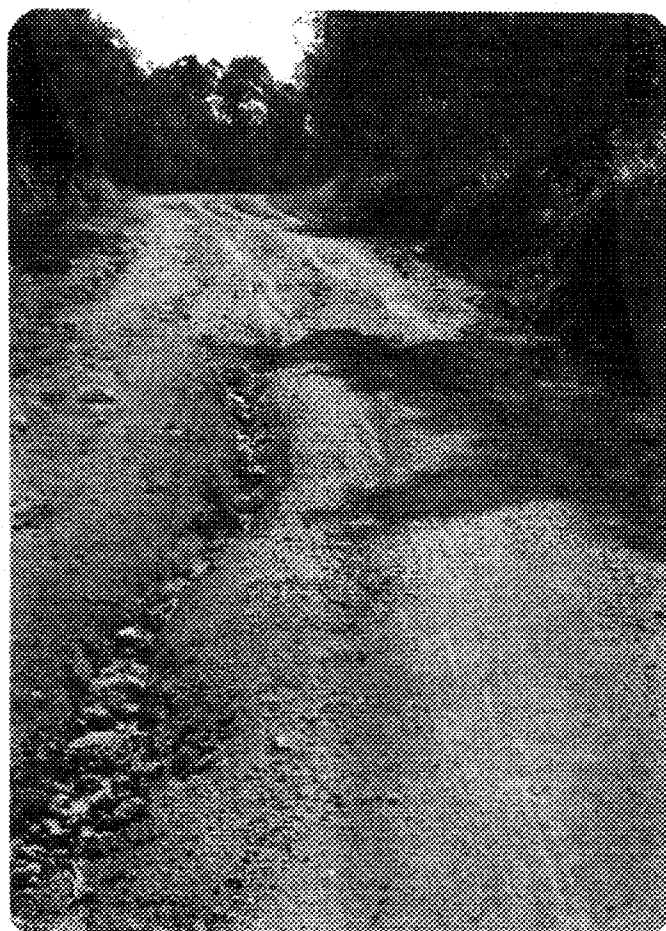
The absence of price discrimination for agricultural products along the Zwedru-Ziatown road and the apparent profit margins left to the farmers after payment of the transport price indicate that to this extent the farmers participate in the benefits of the road. In contrast, along the Plebo-Barclayville road, transport operators charge more for transporting high value products, such as rubber, than they do for a low value product, such as cassava. Also, since the Plebo-Barclayville road is incomplete and has not been officially opened (although it is already being used by a substantial volume of traffic), the road is rough and hard on vehicles. This fact, combined with a serious lack of spare parts, means that vehicle operating costs are much higher than along the Sanniquellie and Zwedru roads. The passenger price for the 15 mile trip from Behwan to Plebo varies between \$2 and \$3, depending on the time of day and the bargaining ability of the passenger. This rate is equivalent to 13 to 20 cents per passenger mile, or two to three times as high as the 6 cents per passenger mile rate prevailing in the Zwedru area. These high prices combined with the long waiting times due to the infrequency of the service have discourage motorized passenger transport, and many of the local population could be observed walking and headloading along the road on journeys that stretched 10 miles or more. When asked why they did not take a taxi, the obvious answer was that they could not afford to do so.

In summary, the competitiveness of the transport industry appears satisfactory in the Sanniquellie area and along the Zwedru-Ziatown road, though the official rates for passenger transport along the latter road do not appear to adequately compensate vehicle operators for their labor and investment. Because of the limited number of operators that want or can afford to enter the market for transport services along the Plebo-Barclayville road, the transport industry there is much more monopolistic than along the other roads. Hence, much less of the transport cost savings are passed on to farmers and other road users.

APPENDIX D
PHOTOGRAPHS



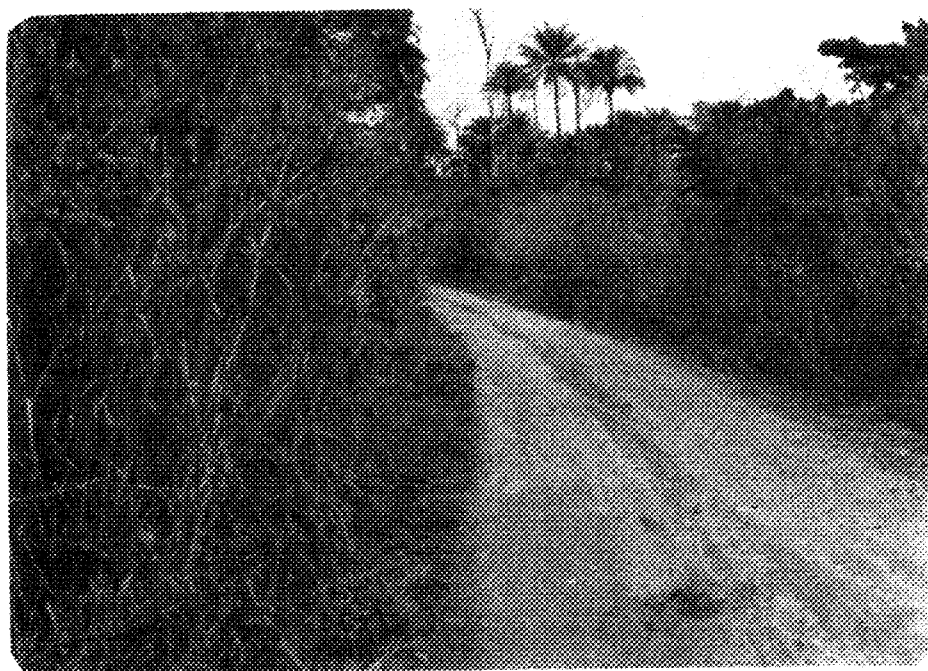
EXAMPLE OF A BRIDGE ALONG THE KOLAHUN-
KAMATHUN ROAD



WEAR, TEAR & EROSION ON THE ROAD



ORIGINALLY WIDE ENOUGH FOR TWO CARS,
IT HAS BECOME A SINGLE LANE ROAD



GROWTH OF ROADSIDE BRUSH
LIMITS SIGHT DISTANCE



NEW HOUSING CONSTRUCTION USING ZINC FOR
THE ROOFS ALONG THE KOLAHUN-KAMATAHUN ROAD



EVEN IN THE DRY SEASON INADEQUATE DRAINAGE
RESULTS IN MUD HOLES



PADDY RICE BORDERING THE ROAD - AN
INFREQUENT SIGHT SINCE UPLAND (DRY)
RICE PREDOMINATES

